

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Getting Bay Delta Solutions on the Ground and Online:
 Proposal Title: An Ag Community Delivery System to Revitalize Our Water And Ecosystems
 Applicant Name: Yolo County RCD/California Asso. of RCDs/DWR co-sponsors
 Mailing Address: 221 W. Court St. #1 Woodland, CA. 95695
 Telephone: 530 - 662-2037 ext.3
 Fax: 530-662-4876
 Email: topquail@yolorcd.ca.gov

Amount of funding requested: \$ 2,947,676 for 3 years

Indicate the Topic for which you are applying (check only one box).

- | | |
|--|---|
| <input type="checkbox"/> Fish Passage/Fish Screens | <input type="checkbox"/> Introduced Species |
| <input type="checkbox"/> Habitat Restoration | <input type="checkbox"/> Fish Management/Hatchery |
| <input type="checkbox"/> Local Watershed Stewardship | <input type="checkbox"/> Environmental Education |
| <input checked="" type="checkbox"/> Water Quality | |

Does the proposal address a specified Focused Action? ☒ yes ☐ no

What county or counties is the project located in? Seven Bay Delta and perimeter sites

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|---|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> East Side Trib: _____ |
| <input type="checkbox"/> Sacramento Trib: _____ | <input type="checkbox"/> Suisun Marsh and Bay |
| <input type="checkbox"/> San Joaquin River Mainstem | <input type="checkbox"/> North Bay/South Bay: _____ |
| <input type="checkbox"/> San Joaquin Trib: _____ | <input type="checkbox"/> Landscape (entire Bay-Delta watershed) |
| <input type="checkbox"/> Delta: _____ | <input type="checkbox"/> Other: <u>see attached maps</u> |

Indicate the primary species which the proposal addresses (check all that apply):

- | | |
|---|---|
| <input checked="" type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input checked="" type="checkbox"/> Winter-run chinook salmon | <input checked="" type="checkbox"/> Fall-run chinook salmon |
| <input checked="" type="checkbox"/> Late-fall run chinook salmon | <input checked="" type="checkbox"/> Longfin smelt |
| <input type="checkbox"/> Delta smelt | <input checked="" type="checkbox"/> Steelhead trout |
| <input checked="" type="checkbox"/> Splittail | <input type="checkbox"/> Striped bass |
| <input type="checkbox"/> Green sturgeon | <input type="checkbox"/> All chinook species |
| <input checked="" type="checkbox"/> Migratory birds | <input type="checkbox"/> All anadromous salmonids |
| <input checked="" type="checkbox"/> Other: _____ | |

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

Strategic Plan Goal #2, ERP Vol 1 pg 42; Goal 6, Objective 1 ERP Vol 1, p 506
Objective 2 ERP Vol 1 p. 506

Title Page

**Getting Bay-Delta Solutions On the Ground and Online: An Ag
Community Delivery System To Revitalize Our Water and Ecosystems**

Name: Kathleen Robins

Address: 221 West Court St., Ste. 1. Woodland, CA 95695

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Email: morobins@jps.net

Participants and Collaborators:

Yolo County Resource Conservation District
California Association of Resource Conservation Districts
State of California, Dept. of Water Resources
Cachuma Resource Conservation District
East Merced Resource Conservation District
East Stanislaus Resource Conservation District
Kings River Conservation District
Ponds-Shafter-Wasco Resource Conservation District
West Stanislaus Resource Conservation District

Type of Organization: Special District, not tax exempt

Employee Identification Number: 94-6000548

Getting Bay Delta Solutions On the Ground and Online: An Ag Community Delivery System To Revitalize Our Water and Ecosystems

SUMMARY: CALFED has identified agriculture as a main contributor both to Bay Delta species and water problems and their solutions. Our project speaks directly to major ecosystem elements described in the CALFED ERP (Vol. I, p. 40,): stream flows and agricultural lands, by addressing concerns in the stressor areas -- water diversions and contaminants. Given the ecosystem complexities and myriad needs of all the Bay Delta stakeholders, the purpose at hand is to co-ordinate and expand existing, successful projects while vigorously recruiting new co-operators and new technologies. Long-term, sustainable solutions must combine people, technology, practices, proven strategies, locally-driven networks, delivery systems, and agency buy-in as critical starting points. Solutions will be only viable, short or long-term, when they meet the needs of the individual and collective ag community; thus an important project common ground is maintaining and enhancing the physical and economic conditions for agriculture.

This combined Resource Conservation/California Association of Conservation Districts/DWR proposal brings a proven, operational team of farmers, technicians, and agency co-operators covering seven sites and multiple farms, from Yolo County in the north to Fresno County in the south. This team (the current Total Resource Management Model Farm Challenge Grant group, funded by USBR) has installed, tested and continues to refine a set of utilitarian, agriculture-supportive techniques (see Attachments A & B), including "agricultural land and water management practices that increase wildlife habitat value" (ERP Vol. I, pg. 32) on and off-farm. A co-ordinated strategy leverages funding and partnerships to advance water quality, efficiency, and ecosystem health. A project-driven partnership with DWR will develop and implement an agriculture water quality testing and management efficiency program - using mobil ECO-LABS - with other appropriate entities. Thus, this proposal provides field services to support the Agricultural Water Management Council "List A" Efficient Water Management Practice implementation.

Our project covers these Ecological Management Zones: Yolo Basin (Yolo County RCD), East San Joaquin (East Merced and East Stanislaus RCD), and West San Joaquin (West Stanislaus RCD) and the upper watershed of the San Joaquin River (Kings River Conservation District). The project EMZs have been specifically targeted for improvement in ERP tables Vol. I, pp. 47, 109, and 424. Stressors and Strategic Objectives, Targets, and Programmatic Actions identified in the ERP (Vol. I, pp. 40, 504, 506-508, and Vol. II, pg. 444) which this proposal includes:

- Stream flows (All EMZ): Ecological Processes, ERP Vol. I, Table 9 pg. 47
- Ag land specifically targeted for habitat (YB, SJR, WSJ): Habitat, ERP Vol. I, Table 12 pg. 109
- Contaminants (YB, SJR, WSJ): Stressors, ERP Vol. I, Table 18, pg. 424

Work in progress would continue to address specific ERP objectives and targeted EMZs (Vol. I & II, 1999 & Strategic Plan Goal 2, Objective 1; Goal 6, Objective; Goal 6, Objective 2). Many CALFED-endorsed methods are familiar to most sites and ready for expansion to others, namely:

- IPM practices to reduce chemical loads [all RCDs]
- Low-application techniques to reduce excess chemical usage [CRCD]
- Water use efficiencies using improvements to pumping and hardware, delivery systems, soil moisture monitoring and irrigation scheduling technologies, and tailwater systems; see attachment [all RCDs]
- Improvements to fertilizer use efficiencies [CRCD and others]
- Sediment reduction (sediment catch basins, tailwater ponds, cover crops), and
- Habitat enhancement (YRCD and others).

Specific primary benefits are to Priority Species (ERP Vol II, pp. 339, 388, 406, 449):

SPECIES	YB	ESJ	SJR	WSJ	Cachuma RCD	P-S-W RCD
Chinook Salmon	X	X	X			
Steelhead trout	X	X	X		X	
Splittail			X			
White Sturgeon			X			
American Shad			X			
Giant Garter Snake		X	X			
Cal. Red-Legged Frog/other amph.	X			X	X	
Upland Game				X		
Swainson's Hawk	X	X	X			X
Greater Sandhill Crane		X	X			
Western yellow-billed cuckoo		X	X			X
Riparian Brush Rabbit		X	X			
San Joaquin Valley Woodrat		X	X			
Shorebirds		X	X			
wading birds		X	X			
waterfowl		X	X	X		
neotropical migratory birds		X	X	X		
native resident fishes	X	X	X	X		
lamprey		X				
plants and plant communities	X	X	X	X		

To co-ordinate restoration project planning, implementation, monitoring, and adaptive management that can track progress across the Bay Delta watershed system, we propose a California-One Plan using similar formats to those developed in Idaho and Michigan [see attachment E]. A Cal-One Plan is a web-based conservation planning tool that supports CALFED's long-term goals to reduce conflict, focus on high-risk species and habitats, and provide water and ecosystem benefits. A flexible, informative, easy-to-use internet package would deliver direct, up-to-date access to resource information, problem-solving options for growers, site and watershed planning, an accountability feedback loop, regulatory compliance or relief, ease of permitting, and diminished litigation risks.

To create a model Cal One Plan, we propose converting two existing plans, the Idaho-One Plan (IOP) and Michigan's Net 21 plans, into a California One-Plan, using Yolo County and this watershed restoration project as prototypes. Other RCDs and groups within the CALFED area would develop their own local sites, using the templates provided by the plan. With our seven sites supplying initial content, this CALFED effort would support a national NRCS proposal of \$580,000 to complete the Idaho and Michigan plans, put digitized Yolo soils maps and aerials on the web, produce prototype web pages for California RCDs and USDA Service Centers, and convert the Idaho and Michigan sites into a California-specific tool.

We understand it's not enough to think up good ideas or begin installation projects. Refining best management practices, creating monitoring projects and ways to communicate results, producing economic analyses that justify better management, and finding ways to motivate landowners—these tasks remain the long-term goals. In our view, this proposal fulfills CALFED's mission: to pull together all aspects of its mandate and address as a whole the physical, logistical, biological, ecological, and sociological variables.

CALFED funding added to current resources will establish and expand field-tested, flexible water quality and restoration programs, plus provide regional and area-wide models for co-operation, information transfer, technical and monitoring precision, and outreach to stakeholders. Because the CALFED problems are daunting, the time short, and the geography vast, only a focused pooling of resources across sites, partners, and watersheds promises solutions that can start immediately and offer lasting and beneficial change.

II. Project Description

This project will incorporate seven sites simultaneously:

- Yolo County RCD, Yolo County (Sacramento River Watershed),
- Kings River Conservation District, Fresno, Tulare and Kern Counties (Kings River Watershed),
- Pond Shafter Wasco RCD, Kern County, (adjacent to San Joaquin watershed),
- Cachuma RCD (AG Zone AG-7), Santa Barbara, San Luis Obispo, and Kern Counties
- East Merced RCD, Merced county (Merced River, South San Joaquin River Watershed)
- East Stanislaus RCD, Stanislaus County (East San Joaquin River Watershed), and West Stanislaus RCD, Stanislaus County (South San Joaquin River Watershed).

There are two core goals: the first is to advance the health of the Bay-Delta impact area by improving agricultural water quality and efficiency and by restoring habitat on farms; the second is to create a planning, implementation, and feedback mechanism to insure the success of the first goal for the long-term. We have four objectives to fulfill these goals:

1. Improving water quality and efficiency
2. Creating habitat on the farm landscape
3. Reducing water supply demand
4. Developing a planning, management, education, and conservation tool

Objective 1: Improving water quality and efficiency

CALFED Bay-Delta Program Phase II Report Draft Implementation Plan pp. 103-104 12/18/1983 a.) Expand Existing State and Federal Agricultural Water Conservation Programs to Support On Farm and District Efforts

"Expand State and Federal programs (DWR, USBR, USFWS, DFG, DHS, NRCS, and SWCB) to provide technical and planning assistance to local agencies in support of local and regional conservation and recycling programs. Develop and implement and agricultural water use efficiency program in cooperation with NRCS, USBR, DWR, Resource Conservation Districts, and other appropriate entities. Local entities will be encouraged to work collaborate (sic) on combined or regional proposed projects."

Our proposal meeting the above goals through the following methods:

- Each site will have access to a mobile ECO-LAB to perform quality assurance of chemical and nutrient analysis in all sites (EPA methodology and DWR-Bryte Chemical Laboratory) and recommend alternative management practices.
- Data retrieval on Agriculture Water Management Council – "List A" Implementation. Evaluate and improve agricultural water management efficiency programs in cooperation with NRCS, USBR, DWR and other key entities.

- CIMIS dissemination
- Sediment reduction (measurements, irrigation water drop structures, tail water ponds, irrigation canal stabilization, vegetative buffer strips, winter cover crops, conservation tillage)
- Reduction of irrecoverable water losses in San Joaquin Valley Drainage Area
- On-farm drainage reduction workshops (West San Joaquin Valley)
- CALFED reporting.

Objective 2: Creating habitat on farm landscapes

- Native vegetation on waterways
- Vegetated tailwater ponds for migrating waterfowl and wildlife
- Predator habitat (bats, owls, and reptiles)
- Hedgerows as habitat for beneficial insects (IPM values) and song birds
- Cover crops
- Roadside restoration to native vegetation

Objective 3: Adjacent sites/ reducing water supply demand

- Reduce water draws by downstream sites adjacent to PSP area via irrigation management (gypsum blocks, cover crops, and efficiency evaluation by ECO-LAB)
- Evaluate feasibility of farm-friendly techniques that enhance fish habitat for species important to the Bay-Delta.

Objective 4: Planning, management, education, and conservation tool - Cal-One Plan (see Attachment E for One-Plan description)

- Connect watershed landowners in Yolo County, local, state, and agency personnel, UC Davis, and state/federal Internet data personnel, (at CERES, ICE, DWR, SWRCB, USGS, NRCS, etc) to create scope and data for Plan
- Evaluate and select Idaho and Michigan Plan components to serve as templates for California's Plan
- With NRCS, finalize digitized soil survey mapping tool for the Plan.
- Tie in a monitoring program from at least one Yolo County watershed using the One-Plan process. Test and refine Plan with input from landowners and agency stakeholders (existing CALFED sponsored Union School Slough project, Cache Creek, EQIP, and other RCD cooperators).
- Create an education program covering all seven sites introducing the One-Plan idea to landowners/operators and agencies.
- Work with state and federal agencies to include permitting capability through the One-Plan. This reduces time, cost and red tape for both landowners and agencies, provides predictability, and gets projects on the ground more quickly.

Table 1: Tasks, Timelines and Deliverables

Tasks	Timeline	Deliverables
Creation of Local Bay Delta Advisory Committee (LBDAC).	Within first two months of project	Identification of target regional issues; prioritization of strategy of attack; local stakeholders brought to the table for feedback, problem-definition, and buy-in. Committee to include local project managers, farm advisors, DWR personnel, state project manager, NRCS, USBR and key persons at each site
Completion of specialized work plans based on local LBDACs' direction:	By the end of the first four months of the project	Work plan, site-specific timeline, identification of main cooperators at each project within site, site-specific monitoring and evaluation plan developed with project experts
Management Practice Implementation	When work plan is complete, ongoing throughout project	Use of the Mobile ECOLABs begins, water sampling, test trials of specific practices
Reporting and Invoicing	Invoicing: quarterly Reports: quarterly and annually	Quarterly and Annual Reports; Database of practices implemented, successes, failures; partnerships; outreach efforts
Local and area-wide outreach	Beginning within first four months of start of project	field days, newsletters, annual meetings or symposiums about the work of the project; regular tours to demonstrate of individual sites and web site
Area-wide project manager on board.	begins immediately and continues through the project	Coordination of activities, reporting and invoicing, guidance and direction for the outreach component of this project. A-W Project Manager will report to a project steering committee consisting of a member from each site, DWR and CARCD

See attached maps.

These seven sites, involving millions of acres of California farmland across the PSP area, offer active participants in a successful water quality and efficiency program that demonstrates proven techniques and results. What distinguishes this proposal are the numbers of farmers and ranchers on board, the wide geographic expanse, the quality of the flexible, customizable practices, and the established teamwork of organization and agencies that can propel the project forward out of the gate.

Ecological/Biological Benefits

This project focuses on improving the Bay-Delta ecosystem through non-point source water quality improvement, irrigation water use efficiency, and wildlife habitat creation along waterways and on farmland. Our privately owned and managed rural lands are the matrix through and from which the waters of the San Joaquin and Sacramento Rivers flow. They ultimately have the greatest impact on those waters, acre by acre and mile by mile of all of the Central Valley's land uses. Effectively communicating and training farmers and landowners in basic, effective do-it-yourself soil and water conservation techniques, as described in this proposal, is critical to improving the quality of water that flows through the Bay-Delta ecosystem. By implementing on-farm practices and demonstrating them in a farmer-to-farmer context, we have found steadily increasing acceptance and adoption of conservation techniques that Resource Conservation Districts have refined and customized for their respective regions. The USDA Natural Resources Conservation Service and Agricultural Research Services have generated quantifiable improvements in water quality and aquatic habitat in relation to on-farm soil and water management practices.

As discussed above, the environmental stressors on which this project focuses on are: water contaminants—specifically sediment, organophosphate pesticides, and excess nutrients; water diversions; and lack of protective cover for wildlife. All of the species identified in the table on the second page of this document are either directly (loss of habitat or toxicity) or indirectly (habitat degradation and loss of food sources or population controls) adversely impacted by these stressors. This project focuses on the following habitats: agricultural wildlife habitats (e.g., farm edge niches for cover and hunting range for Swainsons hawks), annual rangeland, oak woodlands, riparian woodlands, East San Joaquin vernal pools, streams, and seasonal wetlands.

Primary benefits from the project include increased stream flows from reduced water diversions, improved riparian vegetation and shading, reduced sediment clogging of stream gravel beds, decreased toxicity to sensitive invertebrates, and improved upland cover for wildlife on farms. Secondary benefits include increased overall ecosystem health, more balanced predator/prey relationships, reduced algal blooms in streams and thereby increased dissolved oxygen in affected waters, and reduced water temperatures from shading and increased stream volume.

This project has a dual hypothesis: first, that on-farm water/sediment capture structures, soil-stabilizing vegetation, irrigation water conservation and modest farm-by-farm habitat development projects can make a significant positive impact on water quality and quantity in the Bay-Delta; and, second, that landowners will undertake such measures if bureaucratic strictures (such as multiple permits and fees) are streamlined and the expected benefits are clearly defined. The first hypothesis we intend to evaluate through extensive and appropriate monitoring for the different conservation practices (see attached workplans) that have been and have yet to be implemented by the participating Resource Conservation Districts and their cooperating farmers.

The durability of this project is rooted in its nature as locally-led, established and trusted agencies guiding farmers in taking ownership and pride in their own conservation efforts. The practices to be undertaken are simple by design and easy for a farmer to maintain with standard farming equipment. The cause-and-effect of the practices, such as a sediment trap catching

sediment or irrigation water management reducing water demand, is transparent. Although we intend to monitor them closely to more accurately quantify them for a more precise understanding of those benefits, they are easy to understand. As a result, the likelihood of a grower maintaining them beyond the grant period is high.

This Total Resource Management proposal builds off of an on-going six-year project with four of the participating RCDs in which they have dramatically increased their relative capacities to effectively get wildlife habitat and water quality improving practices implemented on farms in their regions. Each of the RCDs is handling multiple projects that provide a multiplier effect to additional funding from new projects (such as this) where they overlap. Two of the sites, Yolo County and East Merced, are already closely working with other CalFed projects within their district boundaries and have identified ways to leverage those relationships to expand the existing proposal. As described earlier, the natural next step for the project is to develop a planning tool that provides a common platform for information transfer, feedback, accountability and planning.

Linkages: This project links directly with the CALFED's Union School Slough project underway in Yolo County as well as this district's BOR Challenge Grant, EPA 319-2 Project to Streamline Permitting, and its BOR-sponsored B108 Irrigation Channel Revegetation project. All the following districts bring their own BOR Challenge Grant experience into play: Pond-Shafter-Wasco, Chachuma, W. Stanislaus, E. Stanislaus, E. Merced, and Kings River. All sites but Yolo are currently involved with the DWR mobile Labs project, which provides a wide range of linkages.

System-wide benefits: Because the project incorporates seven sites and a huge territory of the target CALFED area, with myriad farms, partners, and practices involved, the results offer both direct on-the-ground, system-wide benefits as well as models for other locally-driven watershed approaches. We offer an integrated package of practices that are being refined across a huge land area and a variety of crops and applications. The growth of the Cal One internet platform will both reinforce and extend the ability of a local district to plan, organize, and monitor the effects of on-site changes. The installed practices have gained enormous attention from both government agencies and private organizations throughout the region (such as Audubon and Ducks Unlimited), thus more exposure will increase their usage. Every practice we propose, from tail water ponds, channel revegetation, buffer strips, hedgerows, to the wide range of water management, can be applied to almost every area of the CALFED arena. In short, hundreds of relatively small improvements will accumulate the impact to the entire CALFED watersheds as well as provide prototypes for hundreds more to join.

Technical Feasibility and Timing

Not applicable

Monitoring and Data Collection Methodology

Hypothesis/Question	Monitoring Parameter and Data Collection Approach	Data Evaluation Approach
How much is water demand reduced by irrigation water management techniques?	Comparing water input to field and outflow along with infiltration rate before and after Mobile Lab recommendations	Flow meters at top and bottom of fields and gypsum blocks in furrows and rows
How much sediment is captured by a tailwater pond?	Flow estimation into and out of pond with sediment "catch" samples	Flow meter at entrance to sediment ditch with 1-liter catch samples at early, middle and late irrigation
Is nutrient capture from a tailwater pond significant?	Capture double 1-liter samples at entrance and exit from tailwater pond at early mid and late irrigation	Nitrates to be measured with Cardy meters. Periodic reference measurements to be sent to DWR lab. Will also receive measurements of Phosphorous and salts from DWR samples
Does a tailwater pond reduce pesticides moving into local waterways?	Triple 1-liter catch samples at top, bottom of field and exit from pond at irrigations prior to, following irrigation, and two weeks after irrigation	ELISA analysis of target pesticide
Does a cover crop reduce winter storm runoff from field?	Measure runoff from at least four winter storm events from two sets of paired flow measurement stations (fallow vs. cover crop)	Chart runoff data and run storm by storm comparisons of runoff volume as well as season average comparisons
Does creek and canal revegetation provide bank stabilization?	Visual comparison of vegetated and unvegetated stream sections for erosion.	Estimate of tons of soil lost per linear foot of stream and compared.
Does creek vegetation provide increased shade for water cooling?	Canopy measurements (% shade) along five cross-sectional points of creek and five different points along longitudinal section.	Average canopy cover compared year-to-year

APPLICATION FOR
FEDERAL ASSISTANCE

OMB Approval No. 0348-00-

1. TYPE OF SUBMISSION: Application <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction Preapplication <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction		2. DATE SUBMITTED APRIL 16, 1999	Applicant Identifier State Application Identifier Federal Identifier
5. APPLICANT INFORMATION Legal Name: YOLO COUNTY RESOURCE CONSERVATION DISTRICT Address (give city, county, State, and zip code): 221 WEST COURT STREET #1 WOODLAND CA 95695 Organizational Unit: Name and telephone number of person to be contacted on matters involving this application (give area code): KATHLEEN ROBINS (530) 756-2565			
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 94-6000548		7. TYPE OF APPLICANT: (enter appropriate letter in box) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> A. State B. County C. Municipal D. Township E. Interstate F. Intermunicipal G. Special District </div> <div style="width: 48%;"> H. Independent School Dist. I. State Controlled Institution of Higher Learning J. Private University K. Indian Tribe L. Individual M. Profit Organization N. Other (Specify) _____ </div> </div>	
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) _____ A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration Other (specify): _____		9. NAME OF FEDERAL AGENCY: 11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:	
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: _____ TITLE:		12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): YOLO, KERN TULARE, SANTA BARBARA, SAN LOUIS OBISPO, FRESNO MERCED, STANISLAUS	
13. PROPOSED PROJECT CARLED		14. CONGRESSIONAL DISTRICTS OF: BOXER, ROE, FEINSTEIN	
Start Date 1/1/2000	Ending Date 1/1/2003	a. Applicant YOLO COUNTY RED/CARLED/DWR	
15. ESTIMATED FUNDING:		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?	
a. Federal \$ 2,747,652		a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____	
b. Applicant \$ 100,000		b. No. <input type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW	
c. State \$ 40,000		17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT? <input type="checkbox"/> Yes If "Yes," attach an explanation. <input checked="" type="checkbox"/> No	
d. Local \$ 40,000			
e. Other \$ 20,000			
f. Program Income \$ 0			
g. TOTAL \$ 2,947,676			
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.			
a. Type Name of Authorized Representative Kathryn L. Pyle		b. Title EXEC. DIRECTOR	
d. Signature of Authorized Representative Kathryn L. Pyle		c. Telephone Number (530) 662-2073	
		e. Date Signed 4/16/99	

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I-019500

BUDGET INFORMATION - Non-Construction Programs						
SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		Total (g)
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	
1. CALFED		\$	\$	\$ 2,747,652	\$ 200,000	\$ 2,947,652
2.						
3.						
4.						
5. Totals		\$	\$	\$	\$	\$
SECTION B - BUDGET CATEGORIES						
Object Class Categories	GRANT PROGRAM FUNCTION OR ACTIVITY					Total (5)
	(1)	(2)	(3)	(4)	(5)	
a. Personnel	\$ 1438,178	\$	\$	\$	\$	
b. Fringe Benefits	253,796					
c. Travel	79,200					
d. Equipment	—					
e. Supplies	206,313					
f. Contractual	143,180					
g. Construction	—					
h. Other	431,227					
i. Total Direct Charges (sum of 6a-6h)	2,551,804					
j. Indirect Charges	195,758					
k. TOTALS (sum of 6i and 6j)	\$ 2,747,652	\$	\$	\$	\$	\$
7. Program Income		\$ 0	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8 CAL FED ECOSYSTEM RESTORATION	\$ 100,000	\$ 40,000	\$ 60,000	\$ 200,000
9.				
10.				
11.				
12. TOTAL (sum of lines 8 - 11)	\$	\$	\$	\$

SECTION D - FORCASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 2,747,652	\$ 686,913	\$ 686,913	\$ 686,913	\$ 686,913
14. NonFederal	200,000	60,000	45,000	50,000	45,000
15. TOTAL (sum of lines 13 and 14)	2,947,652	746,913	731,913	736,913	731,913

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16. CAL FED ECOSYSTEM RESTORATION	\$ 2,947,652	\$ 2,947,652	\$ 2,947,652	\$
17.				
18.				
19.				
20. TOTAL (sum of lines 16-19)	\$ 2,947,652	\$ 2,947,652	\$ 2,947,652	\$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	22. Indirect Charges: PROVISIONAL
23. Remarks:	



Yolo County Resource Conservation District

221 W. Court St., Suite 1 • Woodland, CA 95695
Phone (916) 662-2037 (916) 662-4876 FAX

April 16, 1999

To: Boards of Supervisors in Yolo, Kern, Fresno, Tulare, Kern, Santa
Barbara, San Luis Obispo, Merced, and Stanislaus Counties

Please be advised that on behalf of the Yolo County RCD (Resource Conservation District), the CARCD (CA Association of Resource Conservation Districts) and the state DWR (Dept. of Water Resources), we are submitting a three year proposal to CALFED entitled, "Getting Bay Delta Solutions On the Ground and Online: An Ag Community Delivery System To Revitalize Our Water and Ecosystems."

This project will incorporate seven sites simultaneously: Yolo County RCD, Yolo county (Sacramento River Watershed), Kings River Conservation District, Fresno, Tulare and Kern counties (Kings River Watershed), Pond Shafter Wasco RCD, Kern County, (adjacent to Tulare Lake Basin Watershed), Cachuma RCD (AG Zone AG-7), Santa Barbara, San Luis Obispo, and Kern Counties - East Merced RCD - Merced county (Merced River, South San Joaquin River Watershed) East Stanislaus RCD, Stanislaus county (East San Joaquin River Watershed), and West Stanislaus RCD, Stanislaus county (South San Joaquin River Watershed).

With additional funding from CALFED, the project will continue and expand projects already begun in your county under local authority. The project intends to establish and promote field-tested, flexible water quality and restoration programs, plus provide regional and area-wide models for co-operation, information transfer, technical and monitoring precision, and outreach to stakeholders.

We will be happy to supply more information regarding the projects and participants.

Yours truly,

Katy Pye,
Executive Director

ATTACHMENT A
CONSERVATION TECHNIQUES

TARGET AREA	CROP	MAJOR ACCOMPLISHMENT
AGRONOMY		
Vedder	CRCD, 1500 acres sub-tropical fruit area, 60 acres avocados, 30 acres lemons, range	• Mulch and compost experiment, goal to alleviate phytophthora, control weeds, insects and disease, conserve water, provide nutrients, so far: more water held in mulched, tree vigor improved, young tree growth increased, reduced snail and ant activity
Cavaletto	CRCD, sub-tropical fruit area, 30 acres avocados and lemons, heavy soils, 30-50% slope	• New site begin mulch and gypsum to alleviate root rot and erosion (from Vedder)
TexInc.	CRCD, ostrich farm, 40 acres apples, 10 acres cherries, sandy soil	• Cover crop (tall fescue) in both orchards
Triangle	CRCD, high desert, 14 acres apples, 11 acres peaches, 60 acres grain, 390 acres alfalfa	• Cover crop (tall fescue) planted in apples for beneficial habitat and erosion control
Barthuli	KRCD, warm citrus belt, 36 acres oranges, heavy clay	<ul style="list-style-type: none"> • Mulch experiment: reduced winter weeds, higher soil moisture, trees have higher N content, also monitoring brown rot, phytophthora, and fruit size and yield • Farm profits improved with delayed harvest • Cover crop trial on new parcels (28 and 20 acres), initially erosion control looks good, installed weirs to monitor • Drainage improved with culverts, allowed 50 more trees • Integrated design for new orchard
almonds, fanjet	PSWRCD	• New site, focus will be fertility trials with various N levels
almonds, fanjet	PSWRCD	• New site, focus on pruning techniques to minimize total prunings (air quality concerns with burning, expense of chipping and removal)
almonds	PSWRCD	• New site, focus BIOS style management, cover crop for beneficials, water penetration, reducing synthetic compounds
Lester, walnuts	YCRCD, 60 acres, in 2 nd year of conversion to organic production	• cover crop alleviated cracking problem, sped up harvest by 60%, although measures of soil bulk density and infiltration unchanged
Borchard	YCRCD, tomato, wheat, tomato, corn rotation	• Energy and chemical savings by switching from seed to transplants- one less pass for weeds, one less herbicide spray, faster moving hoe crew, hoeing costs dropped from \$200 to \$40/ac, full economic impact pending

Cavaletto	CRCD, sub-tropical fruit area, 30 acres avocados and lemons, heavy soils, 30-50% slope	<ul style="list-style-type: none"> • New site begin mulch and gypsum to alleviate root rot and erosion (from Vedder)
TexInc.	CRCD, ostrich farm, 40 acres apples, 10 acres cherries, sandy soil	<ul style="list-style-type: none"> • Pheromone monitoring for codling moth • Independent PCA for IPM
Triangle	CRCD, high desert, 14 acres apples, 11 acres peaches, 60 acres grain, 390 acres alfalfa	<ul style="list-style-type: none"> • Cover crop (tall fescue) planted in apples for beneficial habitat and erosion control
Barthuli	KRCD, warm citrus belt, 36 acres oranges, heavy clay	<ul style="list-style-type: none"> • Chemical use reduction, savings of between \$3,600 to \$5,000/yr by switching from calendar to as needed spraying with independent PCA, after 4 years still committed to IPM program • Mulch experiment: reduced winter weeds, higher soil moisture, trees have higher N content, also monitoring brown rot, phytophthora, and fruit size and yield
Van Grundy	KRCD, 150 acres of almonds	<ul style="list-style-type: none"> • IPM program rigorous, TRM monitored program which includes no organo-phosphate and carbamate pesticides, beneficial insect releases, good winter sanitation, cover crops
almonds, flood	PSWRCD, 160 acres flood irrigated, corporate grower	<ul style="list-style-type: none"> • IPM rigorous monitoring program with UCCE, little difference between blocks in pest levels, grower unwilling to plant cover or implement other changes
almonds, sprinkler	PSWRCD, 40 acres of microsprinkler irrigated almonds, corporate grower	<ul style="list-style-type: none"> • IPM rigorous monitoring program with UCCE as part of BIOS, less pesticides used, higher reject levels • Economic analysis of BIOS vs. conventional management: profit \$428/ac and \$759/ac higher in conventional • Puffer pheromone trials and cover crop discontinued for lack of perceived benefit
almonds, fanjet	PSWRCD, 200 acres micro-fanjet irrigated almonds, small partnership	<ul style="list-style-type: none"> • IPM rigorous monitoring program with UCCE to compare conventional with trials of BIOS model, 'puffer' trial with pheromone to confuse PTB: 90% reduction in PTB with puffers • Economic analysis BIOS vs. conventional, profits essentially the same • Cover crop discontinued for perceived lack of benefit, puffer trials discontinued due to lack of NOW pheromone
almonds, undertree	PSWRCD, 40 acres of undertree sprinkler irrigated almonds, small family operation	<ul style="list-style-type: none"> • IPM rigorous monitoring program with UCCE to compare conventional with trials of BIOS model, small differences in pest activity • Economic analysis BIOS vs. conventional, profit higher in BIOS (\$1,500)

almonds	PSWRCD	• New site, focus BIOS style management, cover crop for beneficials, water penetration, reducing synthetic compounds
Lester, walnuts	YCRCD, 60 acres, joined project in 2 nd year of conversion to organic production	• IPM rigorous, planted and maintained 2220' long insectary hedgerow and monitored for beneficial, no beneficial releases all naturally attracted, weekly BIOS monitoring of all insects, very low pest levels
Harlan	YCRCD, tomatoes	• New site winter cover crop trial with tomatoes will monitor for effects on infiltration, plant N content, disease, and erosion, runoff control
Teixeira	CRCD, 90 acres lettuce, broccoli, cauliflower and cabbage, large, diversified and self contained operation	• Chemical applications decreased by 30-40% by switching to electrostatic sprayers
Chamberlain	YCRCD	• New site (with established grower-participant) planning clover trial to look at winter weed and Egyptian alfalfa weevil suppression with UCCE
YoloLand	YCRCD, range and cattle	• Trials of new chemical, Transline, to control star thistle, main noxious weed problem in range, effectiveness good, successful outreach
IRRIGATION		
Beringer	CRCD, 452 acres, wine	• New site, Troxler soil moisture monitoring, water table monitoring
Morrison	KRCD, 28 acres, table grapes	• Irrigation: gypsum injection improved infiltration problem, emitter replacement with gypsum increased DU from 78% to 91%, new pumping plant and filtration system reduced cleaning frequency and overall saved 25% on energy costs
Phillips	YCRCD, wine grapes	• Irrigation scheduling- with UCCE became Beta tester for new software
TexInc.	CRCD, ostrich farm, 40 acres apples, 10 acres cherries, sandy soil	• Soil moisture monitoring and CIMIS computer based irrigation scheduling introduced, switched from hand move to large volume sprinklers
Triangle	CRCD, high desert, 14 acres apples, 11 acres peaches, 60 acres grain, 390 acres alfalfa	• Irrigation energy cost saving of 25% • Soil moisture monitoring helped transition to microsprinkler • CIMIS computer based irrigation scheduling introduced, good progress
Vedder	CRCD, 1500 acres sub-tropical fruit area, 60 acres avocados, 30 acres lemons, range	• Located problem with irrigation DU 65% due to mixed nozzles

Harlan	YCRCD, tomatoes	<ul style="list-style-type: none"> • New site winter cover crop trial with tomatoes will monitor for effects on infiltration, plant N content, disease, and erosion, runoff control
Teixeira	CRCD, 90 acres in 5 fields with lettuce, broccoli, cauliflower and cabbage year round, part of large, diversified and self contained operation	<ul style="list-style-type: none"> • N fertilizer inputs on lettuce reduced up to 90% through N monitoring program which entailed soil mineral N, available N incubations and plant N measurements, as well as calibration of simple field monitoring equipment with laboratory results, over three years was able to begin to develop recommendations for fertilizer based on initial soil mineral N, expanded program to over 2,000 acres with separate strategy for drip tape and sprinkler/furrow irrigation, invested in lab to continue program throughout farm • switched from seed to transplants to alleviate problem with cloddy soil • Drip tape shown to improve water use efficiency, uniformity and flexibility with lower labor costs, and also reduce the need for N by 25-30% over sprinkler/furrow, grower will convert several thousand acres • Lowered N inputs resulted in lower residual NO₃ in soil for leaching • Estimate that at least 30% of all row crop farmers in the area are now using intense nitrate management programs modeled after this farm
Jordan	CRCD, 703 acres of lettuce, cauliflower, celery, and artichokes, diversified and self contained operation	<ul style="list-style-type: none"> • Soil and plant N monitoring, (based on Teixeira model) demonstrated that yields could be maintained even with significant reduction in input, and residual NO₃ could be lowered
YoloLand	YCRCD, range and cattle	<ul style="list-style-type: none"> • Forage quality being addressed with long term plan in cooperation with CDF and BRRWG for controlled burn cycle • After consultation with UCCE range advisor and NRCS range specialist, purchased 30 spring-calving heifers to help lessen mismatch between supply and need for forage
IPM (Vedder)	CRCD, 1500 acres sub-tropical fruit area, 60 acres avocados, 30 acres lemons, range	<ul style="list-style-type: none"> • Mulch and compost experiment, goal to alleviate phytophthora, control weeds, insects and disease, conserve water, provide nutrients, so far: more water held in mulched, tree vigor improved, young tree growth increased, reduced snail and ant activity • Insectary plantings established will monitor for beneficial insects

Chandler	KRCRD, 35 acres of peaches and nectarines	<ul style="list-style-type: none"> • Energy cost savings several thousand dollars per year from pump retrofit • Irrigation uniformity increased from 66% to 75% • Irrigation scheduling software and soil moisture monitoring introduced, and adopted by grower to continue independently
Van Grundy	KRCRD, 150 acres of almonds	<ul style="list-style-type: none"> • Infiltration problem, DU 57 – 73%, gypsum trial, found gypsum injection and cover crop had similar infiltration benefits, gypsum and slower flow rate increased DU to 86%, water into profile increased 30%
almonds, flood	PSWRCD, 160 acres of flood irrigated almonds, corporate grower	<ul style="list-style-type: none"> • Irrigation system DU 81-90%, somewhat improved with recommendations
almonds, fanjet	PSWRCD, 200 acres micro-fanjet irrigated almonds, small partnership	<ul style="list-style-type: none"> • Infiltration tests showed significant improvement with cover crop
Lester, walnuts	YCRCD, 60 acres, joined project in 2 nd year of conversion to organic production	<ul style="list-style-type: none"> • Irrigation evaluation revealed problem with under-irrigation, helped correct with longer set lengths, may change irrigation system
Borchard	YCRCD, tomato, wheat, tomato, corn rotation	<ul style="list-style-type: none"> • Tailwater pond greatly mitigated down stream runoff problem, improved field irrigation management and water use efficiency • Energy: inefficient pump removed and reshaped irrigation canal for gravity flow, \$800/season in pumping costs saved • Grower planning additional tailwater ponds for other acreage, due to positive effects on irrigation efficiency, soil loss, water quality, and wildlife habitat
Harlan	YCRCD, tomatoes	<ul style="list-style-type: none"> • New site winter cover crop trial with tomatoes will monitor for effects on infiltration, plant N content, disease, and erosion, runoff control
Teixeira	CRCD, 90 acres lettuce, broccoli, cauliflower and cabbage, large, diversified and self contained operation	<ul style="list-style-type: none"> • Drip tape shown to improve water use efficiency, uniformity and flexibility with lower labor costs, and also reduce the need for N by 25-30% over sprinkler/furrow, grower will convert several thousand acres • Cost savings with drip tape on 90 acres \$1,575 • installed Waterman surge valve which resulted in DU of 96% and improved management of excess tailwater • Uniformity problem with long drip tape lines addressed by testing new, wider tape, which maintains uniformity up to 1400' (previous lost uniformity above 800', and lines were 1200') • Celery irrigation trial found yields could be increased 5% with an additional 2" of water

Jordan	CRCD, 703 acres of lettuce, cauliflower, celery, and artichokes, diversified and self contained operation	<ul style="list-style-type: none"> • Converted 40% of acreage (442 acres) from sprinkler/furrow to drip tape, reduced water use from 26" to 14" and saved \$19,450 per crop • Water quality problem alleviated by developing new wells with higher water quality and installing inter-connecting pipeline between wells to mix poor quality with higher quality water • Installed variable speed drive control panel to increase management capabilities for water • Irrigation scheduling with CIMIS introduced, grower felt 20-40% water savings resulted
DRAINAGE		
Vedder	CRCD, 1500 acres sub-tropical fruit area, 60 acres avocados, 30 acres lemons, range	<ul style="list-style-type: none"> • Surface drainage improved with lined channels, subsurface drains, contoured planting, surface mulching
almonds, undertree	PSWRCD, 40 acres of undertree sprinkler irrigated almonds, small family operation	<ul style="list-style-type: none"> • Infiltration improved with gypsum injection, may help alleviate drainage problem
Barthuli	KRCD, warm citrus belt, 36 acres oranges, heavy clay	<ul style="list-style-type: none"> • Drainage improved with culverts, allowed 50 more trees
Lester, walnuts	YCRCD, 60 acres, joined project in 2 nd year of conversion to organic production	<ul style="list-style-type: none"> • Drainage and wildlife pond constructed to catch runoff from orchard and other tailwater
Borchard	YCRCD, tomato, wheat, tomato, corn rotation	<ul style="list-style-type: none"> • Tailwater pond greatly mitigated down stream runoff problem, improved field irrigation management and water use efficiency
Teixeira	CRCD, 90 acres lettuce, broccoli, cauliflower and cabbage, large, diversified and self contained operation	<ul style="list-style-type: none"> • High water table in one area alleviated with tile drain system, after trial with drip tape which was found to be insufficient to solve problem, and resulted in salt build-up on surface, drains allow grower to use fields year round without restrictions on crop selection
Jordan	CRCD, 703 acres of lettuce, cauliflower, celery, and artichokes, diversified and self contained operation	<ul style="list-style-type: none"> • A variety of options, including costs, proposed to alleviate surface drainage problems in winter, only economically viable alternative chosen – gravity outlet to channel
YoloLand	YCRCD, range and cattle	<ul style="list-style-type: none"> • Major erosion, sediment, and stock pond water quality problems begun to address in cooperation with AT&T, on-going as initial work on dams and spillways insufficient during winter floods • Restored two damaged stock ponds and seeded with

		<p>annual and perennial grasses and clover with help from YCFC&WCD and NRCS, working on permitting for fencing of ponds</p> <ul style="list-style-type: none"> • Facilitating new workgroup of landowners "Blue Ridge Ranchers Watershed Group" to work on watershed scale solutions for Willow Slough problems
BIOLOGY/ HABITAT		
		<ul style="list-style-type: none"> • Almost all participating farms have had extensive wildlife, bird, and insect monitoring, providing significant base of information for future habitat work
TexInc.	CRCD, ostrich farm, 40 acres apples, 10 acres cherries, sandy soil	<ul style="list-style-type: none"> • Cover crop (tall fescue) in both orchards
Triangle	CRCD, high desert, 14 acres apples, 11 acres peaches, 60 acres grain, 390 acres alfalfa	<ul style="list-style-type: none"> • Cover crop (tall fescue) planted in apples for beneficial habitat and erosion control
Lester, walnuts	YCRCD, 60 acres, joined project in 2 nd year of conversion to organic production	<ul style="list-style-type: none"> • IPM rigorous, planted and maintained 2220' long insectary hedgerow and monitored for beneficial, no beneficial releases all naturally attracted, weekly BIOS monitoring of all insects • Drainage and wildlife pond constructed to catch runoff from orchard and other tailwater
Beeman	YCRCD, tomato, wheat, corn rotation	<ul style="list-style-type: none"> • Habitat restoration along slough with 850' tree planting, (smaller plantings failed in flood) • Monitoring extensive, wildlife, insects, water quality, soil NO3 • Interest in incorporating conservation techniques- tail water ponds, insectary hedgerows, etc. on new area
Borchard	YCRCD, tomato, wheat, tomato, corn rotation	<ul style="list-style-type: none"> • Revegetation with native grasses and insectary perennials around tailwater pond and roadsides, weeds still a problem but habitat has been increased, monitoring for use by wildlife and insects • Grower planning additional tailwater ponds for other acreage, due to positive effects on irrigation efficiency, soil loss, water quality, and wildlife habitat
DQ	YCRCD	<ul style="list-style-type: none"> • Riparian and habitat restoration project, planted native perennial grasses and insectary shrubs in insectary hedgerow, on berms, and on 12 acres dedicated for wildlife habitat

YoloLand	YCRCD, range and cattle	<ul style="list-style-type: none"> • Restored two damaged stock ponds and seeded with annual and perennial grasses and clover with help from YCFC&WCD and NRCS, working on permitting for fencing of ponds • Forage quality being addressed with long term plan in cooperation with CDF and BRRWG for controlled burn cycle
ENERGY		
Chandler	KRCD, 35 acres of peaches and nectarines	<ul style="list-style-type: none"> • Energy cost savings several thousand dollars per year from pump retrofit
Barthuli	KRCD, warm citrus belt, 36 acres oranges, heavy clay	<ul style="list-style-type: none"> • Energy use for pumping decreased by \$1,500/year with new pipeline
Lester, walnuts	YCRCD, 60 acres, joined project in 2 nd year of conversion to organic production	<ul style="list-style-type: none"> • Cover crop alleviated cracking problem, sped up harvest by 60%, although measures of soil bulk density and infiltration unchanged
Borchard	YCRCD, tomato, wheat, tomato, corn rotation	<ul style="list-style-type: none"> • Energy and chemical savings by switching from seed to transplants- one less pass for weeds, one less herbicide spray, faster moving hoe crew, hoeing costs dropped from \$200 to \$40/ac, full economic impact pending • Energy: inefficient pump removed and reshaped irrigation canal for gravity flow, \$800/season in pumping costs saved
Teixeira	CRCD, 90 acres lettuce, broccoli, cauliflower and cabbage, large, diversified and self contained operation	<ul style="list-style-type: none"> • Chemical applications decreased by 30-40% by switching to electrostatic sprayers • Cost savings with drip tape on 90 acres \$1,575
Morrison	KRCD, 28 acres, table grapes	<ul style="list-style-type: none"> • New pumping plant and filtration system reduced cleaning frequency and overall saved 25% on energy costs

ATTACHMENT B

WATER PRACTICES

PRACTICE - EFFICACY	RCD, farm
**** Irrigation System evaluations (mobile lab evaluations for efficiency and uniformity) and Water quality evaluations were used at all RCD's to identify problems and evaluate efficacy of adopted practices ****	
IRRIGATION SYSTEMS	
1. Pumps, wells, and other hardware	
• New wells, pipeline to mix poor quality and high quality water	CRCD, Jordan
• Variable drive control panel - improved management capabilities	CRCD, Jordan
• Waterman surge valve, increased efficiency of irrigation for both furrow and drip tape DU 96% (vs. 75%)	CRCD, Teixeira
• New pumps – good results, 61% and 52% efficiency	KRCD, Barthuli
• Time-of-use meter – with off-peak operation saves \$3,200 per year	KRCD, Barthuli
• Booster pump, replaced worn 60 hp pump with a new 40 hp pump – electrical energy usage reduced 42% (from 265 to 155 kwh/acre-foot)	KRCD, Chandler
• High capacity filter, pump rebowled, automated system for off peak pumping – improved overall system and reduced costs by 25%	KRCD, Morrison
• New filter position and flushing regime – reduced cleaning frequency to 2-3 week interval	KRCD, Morrison
• Siphon – larger siphons have improved problems with over-irrigation and uneven advance times	YCRCD, Borchard
• Pump – replaced with larger, more efficient pump to alleviate under-irrigation	YCRCD, Lester
2. Delivery systems	
• Drip tape - reduced water use, saved \$19,450 per crop on 442 acres	CRCD, Jordan
• Drip tape – reduced water use by 45% over sprinkler/furrow, cost saving on 90 acres \$1,575, reduces N fertilizer requirement 25-30%, increased conversion to several thousand acres	CRCD, Teixeira
• Drip tape – chosen over jets for new orchard, DU 95%	KRCD, Barthuli
• Microirrigation system	CRCD, TexInc.
• Fan jet sprayers, replacing and moving – increased uniformity from 66% to 75% (also fertilizer uniformity increased), less damage from labor crews closer to trees	KRCD, Chandler
• Emitter replacement – improved uniformity from 78% to 91%	KRCD, Morrison
• Emitter replacement – improved uniformity from 73% to 84%	PSWRCD, #2
• Emitter replacement – increased ability to apply water, but still unhappy with total amount of water that can be supplied by system, may change to solid set sprinkler system	YCRCD, Lester
• Flow rate adjustment – increased DU from 81% to 92%	PSWRCD, #1
• Furrow – switched from flood to furrow with center aisle cover crop to move water more efficiently	YCRCD, Wilson

3. Water quality/ infiltration	
• Water additive, Sureflow, to reduce plugging – maintained good uniformity, 78-80% in first year	CRCD, Jordan
• Gypsum for infiltration problems – no noticeable improvement	KRCD, Barthuli
• Gypsum for infiltration problems – no obvious benefits applied weekly	KRCD, Chandler
• Gypsum injection – with emitter replacement substantial reduction in standing water	KRCD, Morrision
• Gypsum – along with cover crop and slower flow rate, improved infiltration after 3 irrigations, reduced time water stood at the end of the field from 3 to 1 day, and increased amount of water into soil by 20%, DU improved from 65-75% to 95%, efficiency improved from 67% to 86% applied water decreased from 50.4" to 40.1"	KRCD, VanGrundy
• Gypsum with cover crop – slight improvement over control in infiltration rate peak	PSWRCD, #4
• Cover cropping – along with gypsum, improvements as above	KRCD, VanGrundy
• Cover cropping – improved infiltration rate peak up from 2.3" to 3.1"	PSWRCD, #2
• Cover cropping – improved infiltration rate peak up from 1.5" to 5"?? accurate?	PSWRCD, #3
• Cover cropping – alone didn't improve infiltration, but with gypsum peak rate slightly higher	PSWRCD, #4
IRRIGATION SCHEDULING	
1. Soil Moisture monitoring	
• Troxler	CRCD, Beringer
• Neutron probe and tensiometer	CRCD, TexInc.
• Neutron probe and tensiometer	CRCD, Triangle
• Neutron probe – found system very helpful to prevent drought stress during unusual spring weather	KRCD, Chandler
• Neutron probe – and software purchased by grower to work on higher intensity irrigation scheduling	YCRCD, Phillips
• Tensiometer	CRCD, Vedder
• Tensiometer – accurate and convenient way to schedule irrigations	KRCD, Barthuli
• Tensiometer – used to schedule irrigation along with ET values and CIMIS data	PSWRCD, #3
• Gypsum blocks – interpretation sketchy due to soil textural differences	PSWRCD, #1
• Gypsum blocks – useful to monitor water use of cover crop	PSWRCD, #2
• Gypsum blocks – interpretation problematic	PSWRCD, #3
• Gypsum blocks – interpretation problematic	PSWRCD, #4
• Gypsum blocks – revealed loss of irrigation water through rapid vertical movement	YCRCD, Beeman
• Watermark sensors – replacing gypsum blocks with Watermark because gypsum blocks last only one season while Watermark claims life expectancy of 6-7 years	PSWRCD

2. Software	
• CIMIS - 20-40% water savings	CRCD, Jordan
• CIMIS - with drip tape results in >85% uniformity	CRCD, Teixeira
• CIMIS	CRCD, TexInc.
• CIMIS and UCCE program fit to data from orchard for future scheduling	CRCD, Triangle
• CIMIS – with tensiometer data and ET values to schedule irrigation	PSWRCD, #3
• Soil moisture monitoring software – grower found useful, is using it independently	KRCD, Chandler
• Deficit irrigation software from UCCE – beta tester for this new software	YCRCD, Phillips
DRAINAGE and RUNOFF	
• Tile drains – very effective, allowed year round use of field by keeping water table at 5' throughout winter	CRCD, Teixeira
• Subsurface drains – helped improve surface drainage and erosion problem	CRCD, Vedder
• Lined channels (along with contour planting, surface mulching, and subsurface drains) – improved surface drainage and erosion problem	CRCD, Vedder
• Contour planting (along with lined channels, surface mulching, and subsurface drains) – improved surface drainage and erosion problem	CRCD, Vedder
• Mulching (along with contour planting, lined channels, and subsurface drains) – improved surface drainage and erosion problem	CRCD, Vedder
• Cover crop – preliminary evaluation substantial runoff control for soil erosion control benefits	KRCD, Barthuli
• Culverts – drained enough area to allow planting of 50 more trees	KRCD, Barthuli
• Tail water pond – improved drainage problem, and reduced downstream runoff and water use efficiency	YCRCD, Borchard
• Tail water pond – improved drainage and ponding problem	YCRCD, Lester
• Creek restoration project – to address large scale drainage and erosion problems	YCRCD, Phillips
• Sediment traps, and larger scale spillway project – to slow silting of stock ponds	YCRCD, YoloLand

ATTACHMENT C

COLLABORATION AND NETWORK DEVELOPMENT SUMMARY

Over the four years of the TRM project one of the more valuable accomplishments has been the development of a tremendous capacity to address a variety of issues and conduct whole farm evaluation and integrated resource conservation activities. This capacity is based on networks of experts in various areas that are working with each resource district TRM project. Involvement ranges from UCCE-lead on-farm field trials of proposed new practices such as green mulch for erosion and phytophthora control in citrus in KRCD, to collaboration in insect monitoring, wildlife surveys, revegetation, and outreach activities. Between 1995 and 1998 collaboration includes the following: almost 20 different University Coop Extension Specialists; 6 Farm Advisors; 15 UC faculty and other personnel; six other large agricultural projects including California Association of Family Farmers BIOS and BIRC programs; more than 10 county agencies including county flood control districts, water districts, and a waste department; 10 representatives of state and federal agencies including California Department of Forestry, California Department of Water Resources, and the National Resource Conservation Service; and more than 10 representatives from private industry, business and the press. These agencies and individuals have been, and continue to be involved in, the projects at all levels. These networks provide invaluable support to the goals of the project.

The variety of collaboration developed at each RCD reflects the regional specific issues with which they had to be most concerned. YCRCD worked more extensively with State and Federal Agencies than other RCDs in order to facilitate larger scale drainage and revegetation projects with Federal Long Term Agreements for cost-share funding, and initiate watershed scale planning that is necessary to alleviate a variety of flood control, water and range quality issues. They also have a broad range of UCCE experts and UC personnel involvement to consult on the broad range of crops that were included in the project. KRCD was somewhat more self-contained because they had a variety of experts already associated with the RCD, including an agricultural engineer and a biologist. They worked with orchard crops and their network of outside experts included primarily UCCE and UC Farm advisors with expertise in orchard management and IPM. Several UCCE experts are involved with KRCD on long-term, replicated trials of orchard floor treatments. Similarly, CRCD has a broad network of UCCE and agency experts involved in addressing irrigation and drainage issues, and trials that address specific concerns in each of their cropping systems. For example, a variety of county agencies are involved with UCCE and CRCD on an integrated study using urban green waste to alleviate phytophthora and control weeds and insects, while providing disposal of urban waste. PSWRCD worked with a single crop with which they had considerable expertise and utilized outside collaboration for outreach efforts, trials of experimental approaches such as pheromone puffers, and for equipment trials.

Through the BLM Challenge Grant RCDs have successfully provided an important focal point for integration of various public and private sector expertise concentrated on the goals of total resource management on California farms. These networks are now available for continued progress, and represent an important product and accomplishment of the original Challenge Grant.

CACHUMA RESOURCE CONSERVATION DISTRICT

CA Dept. Water Resources

CA Poly State University, San Luis Obispo, microirrigation system evaluation software, Dr. Charles Burt
(author of software)

California Farmer (trade journal), David Oltman

CH20 Water Quality (consultant)

Marborg Trucking, urban waste and compost study on Vedder

Monterey County Water Resources Agency

S & W Manufacturing

San Luis Obispo County Agricultural Commissioner, Gail Perez, pheromone traps for apple maggots and
codling moths on Triangle Farms and Teixeira Foods

San Luis Obispo County Farm Bureau

Santa Barbara County Flood Control District, Topographic CAD Files

Santa Barbara County Solid Waste Department, Steve Johnson, collaborating on Vedder Ranch mulch
and compost study

Santa Barbara County Water Agency, Lynn Anderson-Rodriguez and Darcy Aston, Mobile Lab Program
and CIMIS, numerous publications

Sustainable Ag Farm Systems

UC Davis

UCCE-Davis, Tim Hartz, collaboration on Teixeira Farms, irrigation water quantity and celery yield, and
soil nitrate guidelines

UCCE-Riverside, John Menge, collaboration on Vedder Ranch mulch, compost study, Larry Williams & Phil
Phillips

UCCE-San Luis Obispo, Mary Bianchi cooperating to help monitor pheromone traps for codling moths
and apple maggots on Triangle Farms and Teixeira Foods

UCCE-Santa Maria, Warren Bendison

UCCE-Ventura, Ben Faber, collaboration on Vedder Ranch mulch and compost study, and similar work at
new Cavaletto site

UCCE, Chuck Ingels, advice on rodent control using owl boxes

USDA-NRCS, John Tiedeman, Doug Toews, consultation on previous soil and irrigation work, interacted
regarded cost-sharing for drainage project through Environmental Quality Incentive Program
(EQIP) for Teixeira Foods, on site investigation of concentrated

Waterman Industries, for Waterman Surge Valve for Teixeira

KINGS RIVER CONSERVATION DISTRICT

California Department of Water Resources, in-kind services and /or matching funds

Fresno Irrigation District (FID), in-kind services and /or matching funds

Jim Stewart, independent PCA for IPM

KRCD, agricultural engineer, Steve Haugen

KRCD, biologist, Jeff Swindle, wildlife and fisheries

Norman Boriack, agronomist consultant for periodic agronomic evaluations

Pest Management Associates, Jim Stewart, green mulch citrus trial for phytophthora and erosion control

Randy MacFarland, outreach consultant

UC Farm Advisor, Citrus and Nuts, Kurt Hembree, orchard floor management trial for weed control, cover crop management, citrus root health and runoff

UC Farm Advisor, Vegetation Management, Mark Freeman, orchard floor management trial for weed control, cover crop management, citrus root health and runoff

UC Riverside root health specialist, sampled soils for phytophthora

UCCE collaboration from study comparing biologically integrated to conventional farming systems in citrus

UCCE cooperating on monthly "Irrigation and Crop Management" breakfasts

UCCE IPM Weed Ecologist, Timothy Prather, citrus green mulch trial, and orchard floor management trial for weed control, cover crop management, citrus root health and runoff

UCCE Jim Stapleton, PI for green mulch trial for phytophthora and erosion control in citrus

POND-SHAFTER-WASCO RESOURCE CONSERVATION DISTRICT

BIOS (Biologically Integrated Orchard System), Kern-James Brazzle and Doug Blair, Merced and Stanislaus counties, project collaboration for practices, monitoring, and regional perspective, and participated in workshops

California Living Museum (CALM) collaborated on owl rodent control program, including release of owls in area

Department of Water Resources, Land Use and Water Analyst Arturo Carvajal, assisted with workshops
Kearney Ag. Station, Walt Bentley, mating disruption pheromone 'pruffers' for peach twig borer
management team consists of : UCCE, DWR, PG&E, Kern County Water Agency, local water districts, PSWRCD and growers

NRCS, Ed Russell, Soil scientist, and Raul Ramirez, Soil Conservationist, assisted with workshops
Soil Solutions, Visalia, provided gypsum injection machine to project at no cost to conduct trials
UC Farm Advisor Mario Viveros, nitrogen trial, and pruning - trash reduction- trials, and workshop presentations

UC IPM, Walt Bentley - workshop presentations on BIOS

UC Riverside, Dr. Harry Shorey, Roland Gerberand Jocelyn Millar, mating disruption pheromone 'pruffers' for peach twig borer

UCCE extensive participation throughout project to monitor insect traps and reject levels data for almonds

UCCE Mario Viveros, Blake Sanden, and Craig Kallsen, assisted with workshops

UCCE Riverside, mating disruption pheromone 'pruffers' for peach twig borer

YOLO COUNTY RESOURCE CONSERVATION DISTRICT

BIRC (Bio-Integral Resource Center's) Tomato Field Reference monitoring project, Borchard participated for insect pest and predator monitoring for IPM

Blue Ridge Ranchers Watershed Group - group of landowners in Willow Slough Watershed coordinated by RCD to promote watershed scale solutions, initially concerned with burn

CAFF - Yolo county Walnut BIOS (Biologically Integrated Orchard System) program with CAFF(Community Alliance with Family Farmers) cooperated in orchard management and insect pest and predator monitoring program for walnut orchard

California Cattlemen's Association - transline trial for starthistle control

CARCD - collaborated on proposal submitted to SARE

CDFA FREP program grant for winter cover crop trial in tomatoes

Department of Forestry cooperating on long term plan for controlled burn to improve range in Willow Slough Watershed

Dow Agrosiences, Tim Baldwin - transline trial for starthistle control

Federal Long Term Agreement (LTA) for cost-share funding on fencing, revegetation, and pond development projects on Yolo Land and Cattle ranch

John Taylor Fertilizer, Carl Bruce, cooperating on Transline and fertilizer trial at Yolo Land for starthistle control and forage quality

Monsanto Co., cooperation on field day for schools

Nature Conservancy cooperating on plan for burn

NRCS , RCD helping in Beeman application for USDA EQIP funding

NRCS civil engineer in Woodland office, Carlos Velazquez, technical support for spillway on Yolo Land and Cattle

NRCS geologist Vern Finney, RCD worked with him to develop an Agricultural Non-Point Source (AGNPS) analysis of a watershed at AT&T site at Yolo Land and Cattle

NRCS Long Term Agreement (LTA) funds for habitat restoration at DQU

NRCS range specialist Richard King, advising on farm plan for Yolo Land and Cattle

NRCS staff helped with transplanting in revegetation efforts on Beeman ranch along slough

Operation Greenstripe students coordinated for plantings

Power Hydrodynamics - irrigation evaluations

Reclamation District 108 cooperation on levee revegetation on Gear Farm

State Water Resources Control Board (SWRCB) supporting water quality analysis for tailwater ponds

State Water Resources Control Board (SWRCB), Michael Perrone conducts bird surveys on project

UC Davis Agronomy Dept. NRCS, USGS all provided monitoring equipment

UC Davis Landscape Architecture professor Rob Thayer, volunteering with RCD to research book on "landscape patterns for sustainable agriculture"

UC Davis zoologists monitoring wildlife

UC Davis, Agronomy and Range Science, Diana Friedman
 UC Davis, Avian Science, Michael Fry
 UC Davis, Environmental Engineering, Eric Larsen
 UC Davis, Landscape Ecology, Sharon Collinge
 UC Farm Advisor Gene Miyao winter cover crop trial in tomatoes
 UC Farm Advisor Rachael Long, Berseem and red clover trial in alfalfa on Chamberlain farm, and
 improved monitoring and treatment for weevil control
 UC Farm Advisor, orchard and vine crops, Wilbur Riel
 UC SAREP's Robert Bugg, collaborated on grant proposal wildlife, insectary benefits of tailwater ponds
 UCCE Larry Schwankl support for gypsum block soil moisture monitoring
 UCCE Livestock Farm Advisor, cooperator on starthistle trial
 UCCE range advisor Dave Pratt, advising on farm plan for Yolo Land and Cattle
 UCCE range advisor Gary Vesperat for advice on plant sampling, and Transline trial design
 UCCE Weed Specialist, Joe DiTomaso, cooperator on starthistle trial
 UCD Agronomy Dept's Craig Thomsen, Sacramento Valley Prairie Project, collaborated on grant proposal
 to evaluate insectary benefits of native plantings, and helps incorporate native forbes in pond
 revegetation efforts
 US Fish & Wildlife Services's Partners for Wildlife Program funds for habitat resoration at DQU
 Yolo County Flood Control and Water Conservation District, Charlie Pulley, helped reshape south bank of
 Chickahominy Creek for native plantings, consulted on plan for ditch near Slough to minimize
 flood damage at DQU, and helped construct drainage and wi
 Yolo County Roads Superintendent helping deal with surface drainage problem on Lester farm

ATTACHMENT D

OUTREACH SUMMARY

A primary objective of the TRM project was demonstration of resource conservation practices to the larger community. Each participating RCD used their existing outreach vehicles such as RCD newsletters, and developed new capacities including various collaborations with UCCE researchers, county agencies, and Agricultural publications. Outreach efforts have been extensive from 1995-1998, and include the following:

- Over 25 articles and publications including primarily RCD newsletter articles, but also Agricultural press articles and a booklet entitled "Bringing Farm Edges Back to Life" prepared by YCRCD which has sold at least 50 copies
- Over 35 presentations at various grower meetings, in classrooms, and at agency meetings
- Over 39 workshops and meetings including a monthly growers' breakfast begun in 1998 by KRCD with UCCE, and a new growers' group 'Blue Ridge Ranchers Watershed Group' focused on watershed scale solutions to problems in the Willow Slough area of Yolo.
- 14 tours both formal and informal ranging from a two day field tour of project sites in CRCD, to a casual tour for participating growers to visit each others farms in Yolo County

Although it is very preliminary, certain practices demonstrated and presented through TRM outreach efforts have already been adopted in the wider community. Several non-project growers purchased gypsum injection technology to improve infiltration and water management after a KRCD growers' meeting. Sand filtration technology to reduce cleaning frequency and improve pumping efficiency also attracted interest from other growers in the KRCD area. The most successful extension has been the adoption of the intensive nitrate management program demonstrated on Teixeira Farms with CRCD by at least 30% of row crop farmers.

New grower participants are another sign of successful outreach efforts. All projects have added new sites or have expanded into new fields with original participants. In PSWRCD three new almond orchards were added to the project in 1998, each with a separate focus: a fertility trial, a pruning trial, and one with an emphasis on monitoring effects of Biologically Integrated Orchard System (BIOS) management. CRCD has added a second avocado and lemon operation to expand mulch and gypsum studies. YCRCD added a new tomato site for winter cover crop studies, a new site with an existing participant for clover trials in alfalfa, and organized the Willow Slough watershed group that includes several growers who were not directly involved with the TRM project. The KRCD TRM project has helped a participating grower to plan and implement an integrated design including low volume irrigation system and cover cropping for a new citrus orchard.

CACHUMA RESOURCE CONSERVATION DISTRICT

- 96 publication "Lowered rates" California Farmer, crop produced with less fertilizer
- 96 publication "A higher Level" California Farmer, monitoring plant N to reduce fertilizer
- 96 publication County water Connection, various articles about TRM
- 96 workshop presentation: Nitrate fertilizer management, UCCE
- 96 workshop presentation: Improved practices for fertilizer management, UCCE
- 96 workshop presentation: Irrigation and nutrient management conference
- 96 workshop presentation: Nitrate management workshop, CDFA
- 96 presentation: Santa Barbara County Water Agency, Cuyama Elementary School, San Luis Obispo County Farm Bureau, Edible Nut Growers Association, Water conservation Staff annual meeting, CCOF
- 97 CIMIS Weather Stations and evapotranspiration data, Central Coast Highlights
- 97 CIMIS hotline assists irrigators in Santa Barbara County, Newsletter
- 97 Taking Weather's Measure, Santa Maria Times
- 97 Irrigation System Design and maintenance, Viticulture course materials
- 97 Erosion control for hillside farming, for viticulture course
- 97 Waste Not, California Farmer Magazine
- 97 California Irrigation Management Information Systems Workshop, Santa Barbara and Santa Maria
- 97 2-day tour of TRM sites and CRCD
- 97 CARCD tour
- 97 data sharing at IPM workshops for winegrapes, fertilizer workshop, and lettuce disease workshop
- 97 provided instruction to NRCS on various diagnostic tools - nitrate levels in soil and water
- 97 July 97, four field workshop/demonstrations covering efficient drip and micro irrigation management on small farms
- 98 articles about TRM County Water Connection
- 98 Resource conservation District Projects using 'Mulch and Compost From Cities', publication
- 98 discussion of mulch and irrigation water management in avocado orchards, CAFF
- 98 results of TRM fertilizer management practices, Salinas Annual Fertilizer Conference
- 98 Efficient use of nitrogen for organic vegetable production, workshop
- 98 project update at biannual water efficiency meeting, Santa Barbara and San Luis Obispo counties
- 98 Water and nutrient management, four presentations at various grower facilities
- 98 TRM work on water conservation and water quality at San Luis Obispo Water Advisory Committee
- 98 general discussion of TRM concepts and examples of practices at Central Coast Resource Conservation and Development
- 98 discussion on irrigation and fertilizer management under TRM at Santa Maria Valley Water Conservation District

KINGS RIVER CONSERVATION DISTRICT

- 95 newsletter mailings- Irrigation News and KRCD Newsletter, May-June 95 article, Feb 95 article
- 95 one article in KRCD newsletter about irrigation efficiency study (appendix H) and activities on four farms to monitor water use
- 95 display booth at the AgFresno Fair
- 96 winter KRCD newsletter article on wildlife survey findings, presentation to Fresno County Biological Integrated Vineyard System meeting April 96, and to Conservation Tour group August 95
- 96 October 3 meeting to report on water management and gypsum injection work at almond orchard, 75 attended, one grower as a result of this meeting purchased equipment to begin a gypsum program
- 96 TRM grower was connected with Pitts Farm that has developed a low-tech gypsum tank, TRM grower wants to try this technology
- 97 Irrigation news 7.6 on sand problem in grape site, Ag Alert contacted them, may print sand article
- 97 Ag Alert reprinting sand pumping problems article, Western Fruit Grower reprinting gypsum injection newsletter, Irrigation News 8.2-ET for scheduling irrigation (appendix B) reprint in Agribusiness News (May) Ag Alert may also reprint
- 97 response to these articles good, phone calls and site visits on sand pumping, gypsum questions continue to come in, several machines have been purchased as direct result of TRM, AgLine (telephone recordings that provide ET) calls up from 25 to 40 per week
- 97 Irrigation News 8.3 on irrigation system work for new citrus plantings
- 97 grower meeting Oct. 24 97, 100 attendees, subject purchasing quality low volume irrigation system
- 98 Jan Irrigation News 9.1 had results of 3 year TRM irrigation efficiency study (appendix A and B)
- 98 June Irrigation News - water management tools in almond orchard
- 98 May presentation to BIVS(biologically integrated vineyard systems) on using ET to schedule irrigation with drip systems
- 98 began 'Irrigation and Crop management' breakfasts with UCCE, May and June use of ET to schedule irrigation, and soil moisture monitoring devices discussed,
- 98 June presentation to BIOS for almond growers in Madera, subject "water management monitoring"
- 98 irrigation and crop management breakfasts continuing monthly- 4 to 10 attendees; topics: July-interpreting soil moisture readings, Sept-potassium application through irrigation systems, Sept-drip system maintenance for winter shutdown.

POND-SHAFTER-WASCO RESOURCE CONSERVATION DISTRICT

- 95 consensus reached that growers want to share results in order to promote more intelligent use of pesticides and fertilizers
- 96 no outreach efforts thus far, except announcement of project's existence, want more data
- 97 workshop with UCCE to present TRM highlights
- 97 public meeting Feb 97, speakers on BIOS programs, IPM, N management
- 97 an article was written for the Bakersfield Californian
- 97 presentation by Dr. Harry Shorey of UCCE at the CARCD Annual Conference Nov. 97 on mating disruption pheromone
- 98 irrigation workshop Feb. 98, highlighting irrigation water management, soils, soil, plant, and water relations, sponsored by PSWRCD, NRCS, DWR, PG&E, UCCE, well attended
- 98 irrigation workshop May 98, highlighting irrigation water management, soils, soil, plant, and water relations, sponsored by PSWRCD, NRCS, DWR, PG&E, UCCE, well attended?
- 98 irrigation workshop Feb 1998, soil, plant and water relations, irrigation water management in English and Spanish

YOLO COUNTY RESOURCE CONSERVATION DISTRICT

- 95 YCRCRD has a well developed system of outreach, thus far project has been promoted in the media (AgAlert), farm tours (Hedgerow and A.H. Rominger Farms), presentations to Farm Bureau, Biodiversity Council, and classrooms
- 96 article on benefits of cover crops in relation to insect and animal biodiversity to Valley Habitats in press
- 96 presentation on project to Colusa County Farm Bureau Wildlife and Ag workshop
- 96 presentation project summary to Yolo County Farm Bureau's Board of directors
- 96 first Operation Greenstripe field day - student and teacher representatives from four different Yolo County FFA schools met with Borchard on farm to learn about tailwater pond and native grasses for wildlife and weed management
- 96 lectures on project to conservation classes at UC Davis, and Yuba College
- 96 led tour of Willow Slough an adjacent farms to demonstrate integration of farms with habitat for class of Landscape Architecture students
- 96 tour for landowners of Borchard pond
- 96 annual 'Farming for wildlife' workshop 70 attendees
- 96 presented materials on Natural Resource Conservation at PlacerGROWN, California Duck Days, National Ag Week
- 96 long term-RCD sees an important roll for itself in facilitating and streamlining permitting process for landowners interested in habitat restoration
- 96 tour of RCD -assisted tailwater ponds for SWRCB "Grassroots Team"
- 96 informal tour of conservation practices in Willow Slough watershed
- 96 University Extension EPA guidelines course tour of BMPs at Hedgerow Farms
- 96 State of Sacramento River Conference - watershed panel, Nov
- 96 RCD has worked with workgroup of landowners 'Blue Ridge Ranchers Watershed Group' in the Willow Slough watershed, meeting Oct. almost all watershed represented, plan group burn project
- 96 Blue Ridge Ranchers Watershed Group formation meeting, Oct.
- 96 California Foundation for Agriculture Conference, roundtable discussion and booth
- 96 Tour of sites for EPA/State Water Board staff, Oct
- 96 CARCD Annual Conference Nov. 4
- 96 Operation Greenstripe student planting party, Dec.
- 97 Model Farms Project Cooperating Growers Meeting and Tour, toured each others farms in Feb.
- 97 Workshop- Working Habitat for Working Farms , Feb, materials and speakers covering insectary hedgerows, tailwater ponds, hillside ponds, grassed roadsides, vegetated canals, and slough/stream revegetation
- 97 presentation- overview of Model Farms Project for LAWR dinner meeting Jan
- 97 presentation- establishing Insectary hedgerows on farm field edges to Biological Prune Systems Grower meeting Jan
- 97 presentations- two classes at Walnut Grove Elementary as part of National Ag Week, "Working Habitat for Working Farms" slideshow
- 97 tour - led one Soil and Water Conservation Society tour buses through Yolo County visiting on-farm examples of conservation practices, included 2 TRM farms

- 97 meeting- National Association of State Departments of Agriculture, discussed on-line whole farm planning tools, toured TRM sites
- 97 poster - Tomato Day Jan, Working Habitat for Working Farms poster
- 87 field day at Yololand and Cattle ranch to demonstrate results of Transline starthistle management trial, Transline seems very effective
- 98 Annual Wildlife Workshop "Bringing Farm Edges Back to Life!" Jan 29-30, 40 attendees , featured speaker HRM for ranches
- 98 "Bring Farm Edges Back to Life" booklet produced, sold 50 copies so far, includes detailed economic evaluation of five conservation practices
- 98 booth at Duck Days Feb 6-8 Davis and "Managing California Watersheds for Flood Control and Habitat Conservation" conference in Sac
- 98 mini-workshop "Bring Farm Edges Back to Life" at Duck Days
- 98 presentation on levee vegetation management to Friends of Clarksburg Youth Feb '98
- 98 Operation Greenstripe planting on four tailwater ponds
- 98 1998 TRM Conservation Tour June
- 98 field day "Transline vs. Yellow Starthistle" June
- 98 upgrading book "Bring Your Farm Edges Back to Life!" sold over 100 copies
- 98 tour for journalist of Capital Press, for a series of articles on RCD activities
- 98 contact with Ag Alert reporter for article about TRM project
- 98 RCD supported BIRC's BIFS proposal which was denied

ATTACHMENT E

California-One Plan - Yolo Prototype

CALFED's interest is getting active people doing active things. But water quality, ecosystem, and conservation challenges are overwhelming existent gateways, in and outside of agencies, blocking progress to watershed and ecosystem restoration. Agency and societal expectations on landowners to solve large-scale ecosystem problems are high, yet there is a telling gap between these expectations and the tools and knowledge at the landowner's disposal. We want solutions to resource problems from people who have too little time, too little knowledge, too little data, too little technical assistance, and too little money. We put off potential allies by not acknowledging this reality: Landowners remain isolated, dis-empowered, and face numerous agency masters. There is a contradiction when agencies make demands without supplying comparable resource tool kits to satisfy these demands. We believe a California-One plan, acting as a bridge and added to other targeted funding and innovative solutions, will turn adversaries into partners and will vitalize CALFED efforts.

The One Plan is a conservation planning tool that can help CALFED's long-term goals of reduced conflict, creating ecosystem and water benefits, and providing for adaptive management. Such a planning tool allows direct access to needed information, interpretation, site and watershed planning, adaptive management, regulatory compliance or relief, and ease of permitting.

With a One Plan tool on-line, a landowner or operator can view maps of their property, understand potential resource problems based on NRCS and other technical guides, evaluate their management options, implement ecosystem treatments, and adapt necessary changes to installed practices as monitoring data becomes available. The One Plan brings agencies together to synthesize the most current information available into templates that are ready-to-use, thus saving the user and themselves precious time and money.

To create a One Plan for California, we propose converting two existing plans, the Idaho-One Plan (IOP) and Michigan's Net 21 plans, into a California One-Plan, using Yolo County as the prototype site. Other interested conservation district sites under this proposal would gather local data for use in the templates provided by the Plan. Already at NRCS national headquarters in Washington is a tri-state proposal which would complete work on the Idaho and Michigan plans, put digitized Yolo soils maps and aeriels on the web, produce prototype web pages for California RCD's and USDA Service Centers, and begin the process of converting the Idaho and Michigan sites into a California-specific tool. California NRCS has produced 22 digitized soil surveys and six of the seven proposal sites are already on their list to be digitized, pending funding. The Yolo RCD has gathered and created the basic templates covering resource concerns in the county, has completed required soil survey digitization, is getting digitized aeriels from NRCS, has a 131,000 acre watershed plan covered in CALFED's Yolo Bypass Ecological Zone, and approved CALFED watershed project with Audubon-California covering Union School Slough.

The One-Plan starts with planning, moves to implementation, and provides feedback to support watershed change. This is a way to structure adaptive management on both the technical (ecosystem) side and the community side, e.g. the participants willingness to buy in and their ability to meet their own conservation or restoration goals.

Incorporating participants in the CALFED-funded Union School Slough restoration project and others across the Willow Slough and Cache Creek watersheds, Yolo County will pilot the One Plan structure with individual farmers and farms and create an information exchange to other watersheds in the project.

Work plan for developing the Cal One Plan

1. Hire a coordinator for the One-Plan development. Responsibilities will include:
 - a. connecting with watershed landowners in Yolo County, local, state, and agency personnel, UC Davis and state Internet resource data personnel (at CERES, ICE, DWR, SWRCB, USGS, NRCS, etc.) and others to pull together the scope and data for the One Plan, both in general and Yolo County-specific terms.
 - b. evaluating the Idaho-One Plan and the Michigan Net 21 products to determine which modules work best in California and refine, as necessary. Define the requirements for customizing and integrating those modules into a Yolo County- One Plan prototype.
 - c. work with NRCS - CA state office soils unit computer specialist to finalize the One Plan soil mapping tool based on Yolo's digitized survey. Coordinate effort and funding to digitize soil surveys for the other sites.
 - d. creating a watershed monitoring program within at least one Yolo County watershed using the One Plan process. The existing RCD/Audubon-CA CALFED project on Union School Slough, Cache Creek, EQIP and other RCD cooperators readily qualify for inclusion.
 - e. creating an education program covering all seven sites that would introduce the One Plan idea to landowners/operators and agencies in all of the project area.
2. As segments are built, assess and refine the Yolo County-One Plan through the watershed groups, individual landowners, state and federal agency participants to the project.
3. Work with state and federal agencies to include permitting capability through the One Plan. This would mean developing links to the agency web sites where permittees would find permit application forms, and ideally, they would be able to obtain a permit over the Internet, based on a completed One Plan on their watershed project. The One Plan reduces review time and because of multiple agency coordination and buy-in, reduces the red tape and cost to the landowner/operator.
4. Seek other resources and support, financial and otherwise, from public and private sources to assure we deliver according to plan and schedule.
5. Work with a coalition of agencies to determine overall oversight and responsibility for a Cal-One Plan. Determine who will house it, make updates, guarantee accuracy, particularly regulatory compliance framework.

(For an idea of what the Plan would look like and how it would work, see attachment E or go to the Idaho One-Plan site on the Internet - <http://www.oneplan.state.id.us>.)



IDAHO ONEPLAN

<http://www.oneplan.state.id.us>

A unique collaboration of agencies, industries and associations dedicated to assisting Idaho Farmers and Ranchers in their continuing quest to improve stewardship of our natural resources.

A New Approach to Farm Planning

- Developed jointly through multi-agencies & local ag interests
- Computer-based to improve efficiency and effectiveness
- Enables users to readily understand regulatory requirements
- Integrates agency programs and opportunities into a single plan
- User-driven voluntary/confidential process

CURRENT STATUS OF THE ONEPLAN

- ⇒ 700+ pages of information tailored for Idaho agricultural producers
- ⇒ 400+ links to external agricultural related sites
- ⇒ Currently 12% (2500) of Idaho producers with Internet access
- ⇒ Expected growth by the year 2000 is estimated at 64% or 14,000 users
- ⇒ Site receives over 100 visits a week
- ⇒ Project has completed a professional feasibility study recommending:

Mapping and Visual Basic Planning Application estimates
Statewide Application - \$230,000

Provides an opportunity to develop a product that can easily be adapted nationally

Topic Areas

...HOW WE INTEGRATE...

Farm Planning
Croplands
Nutrient Management
Pest Management
Best Management Practices
Air Quality
Rangelands
Financial Assistance
Water Quality
Endangered Species
Storage Tanks
Waste Management
Water Management
Wetlands
Forestry

ONEPLAN SUPPORTERS

- Office of the Governor
- Idaho Soil Conservation Commission
- Idaho Department of Agriculture
- Idaho Association of Soil Conservation Districts
- Idaho Department of Fish and Game
- Idaho Dairymen's Association
- Idaho Department of Water Resources
- Idaho Division of Environmental Quality
- Idaho Farm Bureau
- Idaho Grain Producers
- USDA Natural Resources Conservation Service
- USDA Farm Services Agency
- USDA Forest Service
- USDA Agriculture Research Service
- USDI Bureau of Reclamation
- USDI Bureau of Land Management
- Environmental Protection Agency
- Idaho Rural Partnership
- University of Idaho Cooperative Extension

OnePlan Benefits

- ⇒ Saves staff time - farmer completes as much as possible before seeking NRCS/FSA or other agency assistance
- ⇒ Provides a valuable tool for natural resource planning assistance
- ⇒ Improves farmers understanding of natural resources & environmental requirements
- ⇒ Eliminates multiple planning efforts
- ⇒ Consistent with administration philosophies and missions (i.e., joint USDA/EPA Clean Water Action Plan)
- ⇒ Provides focal point for planning - emphasizes planning to solve natural resource problems rather than to meet program requirements
- ⇒ Provides mechanism to achieve Total Maximum Daily Loads, Endangered Species protection, Safe Drinking Water, and other resource goals

Active Geospatial Component

The component will allow landowners to identify tracts of land through the aid of digital imagery and on-screen digitizing and to receive information regarding soil type, slope, average precipitation, elevation, landuse or other information necessary to distinguish the property. There will be a free application that may be downloaded from the OnePlan web site along with the imagery, soils data, and other important mapped data.

Key Features of the Geospatial Component

- ⇒ Data or imagery may be viewed and referenced within this free application
- ⇒ The ability to "sketch" current and planned ranch or farm lands on this base data or image
- ⇒ The ability to generate acreage reports based on graphic input from the user
- ⇒ The ability to associate graphics with tabular data generated by OnePlan process
- ⇒ The ability to allow users utilizing other software packages to download and make use of OnePlan web site data in various formats, e.g., shapes files or DXF file format

The Image Viewer

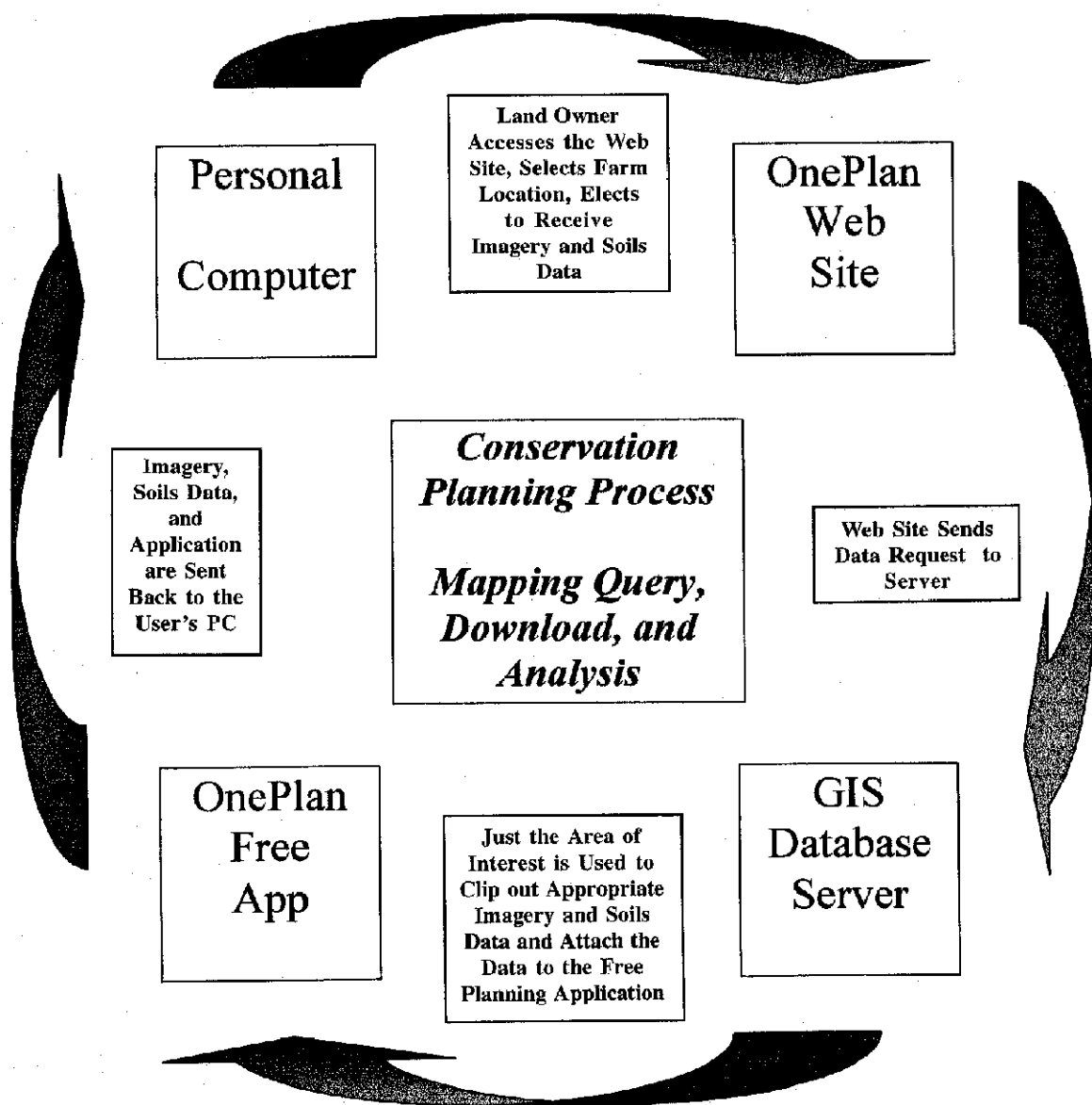
- ⇒ Built with Visual Basic, (VB), and MapObjects LT
- ⇒ Ability to View shape files and has "drag and drop" capability
- ⇒ Includes Pan, Zoom, and Graphic Editing Tools
- ⇒ Has a Small Footprint (<100k)
- ⇒ Includes information gathering and reporting tools

The Development Tools

- ⇒ Utilizes Visual Basic programming for system portability
 - A productive tool for creating fast applications and components
 - Essential for providing an alternative to HTML programming
 - Allows an application that can be downloaded to a land owner's personal computer
- ⇒ Utilizes Map Objects LT map query and display software
 - Low-cost, royalty-free mapping capabilities
 - Allows basic map viewing
 - Permits passing of mapped data to the conservation planning process

Additional Considerations

- ⇒ Server Requirements
 - Need larger and powerful server to handle all imagery and other digital data
- ⇒ Personnel Requirements
 - Need continued personnel for Web page maintenance, data assembly, and customized GIS requests
- ⇒ Data Requirements
 - NRCS soil digitizing to continue in Idaho (24 counties currently have digital data)
 - Digital imagery needs to be gathered in all forms (DOQ, scanned aerial, satellite, others)
 - Need to consider use of digital quad maps as an image source where no others available





Yolo County Resource Conservation District

221 W. Court St., Suite 1 • Woodland, CA 95695

Phone (916) 662-2037 (916) 662-4876 FAX

April 16, 1999

To: Boards of Supervisors in Yolo, Kern, Fresno, Tulare, Kern, Santa Barbara, San Luis Obispo, Merced, and Stanislaus Counties

Please be advised that on behalf of the Yolo County RCD (Resource Conservation District), the CARCD (CA Association of Resource Conservation Districts) and the state DWR (Dept. of Water Resources), we are submitting a three year proposal to CALFED entitled, "Getting Bay Delta Solutions On the Ground and Online: An Ag Community Delivery System To Revitalize Our Water and Ecosystems."

This project will incorporate seven sites simultaneously: Yolo County RCD, Yolo county (Sacramento River Watershed), Kings River Conservation District, Fresno, Tulare and Kern counties (Kings River Watershed), Pond Shafter Wasco RCD, Kern County, (adjacent to Tulare Lake Basin Watershed), Cachuma RCD (AG Zone AG-7), Santa Barbara, San Luis Obispo, and Kern Counties - East Merced RCD - Merced county (Merced River, South San Joaquin River Watershed) East Stanislaus RCD, Stanislaus county (East San Joaquin River Watershed), and West Stanislaus RCD, Stanislaus county (South San Joaquin River Watershed).

With additional funding from CALFED, the project will continue and expand projects already begun in your county under local authority. The project intends to establish and promote field-tested, flexible water quality and restoration programs, plus provide regional and area-wide models for co-operation, information transfer, technical and monitoring precision, and outreach to stakeholders.

We will be happy to supply more information regarding the projects and participants.

Yours truly,

Katy Pye,
Executive Director

Cachuma Resource Conservation District

This district is extremely diverse in climate, topography, agriculture, recreational opportunities, and socio-economic structure. There are several main growing regions, ranging from sea level to 7,000 feet. In the coastal area all relatively flat valleys are used for row crop production, primarily irrigated strawberries, lettuce, cauliflower, broccoli, carrots, beans, flowers and vegetables for seed, and cut flowers. Farming is intensive, producing approximately 2 ½ crops per year. Inland foothills are mainly used to grow winegrapes. In the sub-tropical area of Southern Santa Barbara county sub-tropical fruits, avocados and lemons, are prevalent. Almost all orchards in this area are on moderate to very steep slopes (60%), making erosion a major concern. In the high desert region irrigated alfalfa, grain, apples, cherries and peaches are common crops, and weather extremes, pest management and soil erosion are major concerns.

Targeted Land Uses:

1. Rangeland (~1,000,000 acres)
2. Upland irrigated perennials, mostly winegrapes (~40,000 acres)
3. Upland irrigated annual crops (30,000 acres)
4. Intensive (year-round) irrigated crops (~70,000 acres)
5. Sensitive aquatic species habitat

Targeted Water Quality Concerns:

1. Sedimentation of Twitchell Dam
 - accumulation at double BOR estimate
 - approximately 25% of storage pool lost
2. Sediment accumulation in sensitive species habitat
 - extensive accumulation in Santa Maria & Santa Ynez River estuaries
 - primary watercourses for endangered Southern steelhead trout
3. Nitrate contamination of groundwater
 - documented problems with Santa Maria Valley & Cuyama aquifers some areas substantially in excess of maximum concentration limits for human consumption

Implementation plan:

1. Mobile Lab services
 - Provide hydraulic evaluation of irrigation systems
 - Provide tutorial services on irrigation scheduling
 - Conduct outreach on water management for agriculture & urban community.
2. Land use planning
 - Assist ranchers in developing management plans to meet SWRCB standards
 - Assist upland agricultural developments in planning erosion control practices to meet county grading and erosion control requirements
3. Practice applications
 - Prepare plans & specifications for erosion control using NRCS Standards

East Merced Resource Conservation District

The East Merced Resource Conservation District (EMRCD) is currently involved in several water and wetland resource conservation projects involving dairy lands, crop lands and rangelands. EMRCD, in association with the Community Alliance with Family Farmers (CAFF), is running a BIOS (Biologically Integrated Orchard Systems) program that includes public workshops for local growers on more sustainable orchard practices such as chipping of orchard trimmings as soil mulch, the use of cover crops, and Integrated Pest Management. This program is being funded by a grant from the US Environmental Protection Agency (USEPA). With regards to dairy lands, EMRCD is assisting NRCS on a program to advise dairy operators of techniques for waste control and waste lagoon construction to reduce waste runoff into creeks and rivers. This program is being funded in part by NRCS' Environmental Quality Incentives Program (EQIP) grant.

In the context of the proposed TRM project, EMRCD will combine its efforts with a CalFed-funded restoration program on the Merced River to be led by Stillwater Sciences. The RCD's proposal is to develop a watershed restoration/improvement plan for the rangelands, croplands, and dairy lands adjacent to the Merced River that will support and be supported by the Stillwater Sciences project. The RCD will develop a water quality monitoring program that will be adapted to assess runoff and water quality issues as they affect Merced River water quality for the land uses mentioned above. The RCD's vision is to develop a whole ecosystem approach for restoring the Merced River including its in stream habitat and its adjacent watershed areas in Merced County.

EMRCD is in an excellent position to develop and implement the proposed project since it has current conservation programs on all the types of lands to be assessed and monitor as part of the project. The RCD currently advises dairy owners on water quality issues and lagoon construction practices; works with orchard operators to develop sustainable and biologically-integrated cultivation practices that reduce soil movement and organophosphate pesticide use; and works with ranch owners to establish conservation easements and improve ranching practices. One rangeland project site is a 7,000 acre ranch that borders the north side of the Merced River near Merced Falls.

The TRM project will also build on EMRCD's broad-reaching vernal pool education and conservation program. Program elements include: 1) vernal pool workshops for landowners and agency staff covering such topics as vernal pool biology, wetland regulations, mitigation banking and conservation easements; 2) conducting a planning study for Merced County Planning Department identifying regional conservation strategies for a 100,000 acre area in east Merced County that supports large, pristine tracts of vernal pool habitat; as part of this project, the RCD is working closely with a range of public and private groups involved in planning efforts for the coming UC Merced campus which is to be located within the 100,000 acre study area; these groups include NRCS, Merced County supervisors, Merced County Planning Department, The Nature Conservancy, USEPA, US Fish and Wildlife Service, and Merced County Association of Governments (MCOG); 3) assisting interested ranchers in setting up conservation easements on their rangelands by conducting resource surveys and mapping and publishing a vernal pool

informational brochure. The vernal pool program is being funded through a combination of grants from USEPA, Great Valley Center's LEGACI grant program, and EQIP.

Targeted land uses:

1. Fruit & Nut Orchards
2. Irrigated cropland
3. Dairy land
4. Range land

Water Quality Deterrents:

1. Sediment moving from destabilized stream banks (either "cleaned" or impacted by cattle)
2. Nutrients and sediment from cropland runoff
3. Nutrients from dairy land runoff and seepage into groundwater
4. Cropland runoff carrying organophosphate pesticides into waterways

Sensitive species impacted:

1. Merced River Salmon species—affected by runoff from dairies and cropland as well as poorly managed rangelands.
2. Kern Brook Lamprey near Merced Falls on the Merced River
3. Western pond turtle in the Merced River
4. Delta button-celery along the San Joaquin and Merced Rivers.
5. Vernal pool species including amphibians (western spadefoot toad, California tiger salamander), aquatic invertebrates (vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella), plants (San Joaquin Valley orcutt grass, Hairy orcutt grass, Colusa grass, Greene's tuctoria, Succulent owl's clover, Dwarf downingia, and several *Atriplex* species)

Project practices:

1. Dairy lagoon construction
2. Biologically-Integrated Orchard Systems—IPM, cover crops, mulching, etc.
3. Proper Rangeland Management techniques
4. Conservation easements
5. Merced River watershed restoration management plan

East and West Stanislaus RCDs Total Resource Management Program

The East and West Stanislaus Resource Conservation Districts contain portions of both the Lower Tuolumne and San Joaquin Rivers and their tributaries. In the Valley lowlands, both rivers suffer compromised water quality as a result of the management of their banks, adjacent uplands and wetlands, and the introduction of contaminants from urban and agricultural runoff. Both RCDs, through Memoranda of Understanding with the Natural Resources Conservation Service, have developed, identified, and demonstrated improved land management practices that can reduce non-point source pollution moving into and improve the water quality within the San Joaquin River and its final destination the Delta. Irrigation tailwater and field and dairy runoff can be managed to reduce the movement of sediment, attached nutrients (nitrogen and phosphorous) and soluble and insoluble pesticides into the river system. The presence of excess nutrients in the San Joaquin River contributes to algal blooms in its lower reaches and potentially low dissolved oxygen levels, which threaten aquatic life. As part of the Total Resource Management Project, the East and West Stanislaus RCDs will recruit growers from their existing base of cooperators to demonstrate conservation practices that work not only for their farming operations but also benefit regional water quality and wildlife. UC Cooperative Extension is already an active cooperator with the E&WSRCDs by providing research and monitoring oversight and direction. East Stanislaus RCD is initiating an extensive wetland and riparian restoration program that will provide leverage for the new TRM project.

Target Land Management Systems:

1. Dairy
2. Row crops (corn and dry beans, esp.)
3. Alfalfa
4. Irrigated Pasture
5. Orchard (almonds, apricots and walnuts)
6. Restored wetlands

Water Quality Deterrents

1. Sediment in Irrigation runoff
2. Soluble and Insoluble Agrochemicals in irrigation tailwater
3. Excess nutrients from dairy waste
4. Water temperature from reduced shade on stream banks

Proposed Conservation Techniques

1. Dairy waste management systems
2. Tailwater catchment and recirculation systems
3. Riparian and wetland revegetation
4. On-farm nutrient budgeting and management
5. Wetland re-creation (retiring floodplain farmland)

Target species to benefit from project

1. San Joaquin fall run chinook salmon
2. Yellow-billed cuckoo
3. Brush rabbit
4. Riparian wood rat
5. Western pond turtles
6. Valley Elderberry Longhorn Beetle

Kern County Eco Lab

The Pond-Shafter-Wasco Resource Conservation District (District) has been involved in irrigation water management since the implementation of the Kern County Irrigation Mobile Lab in 1980. The Mobile Lab is supported by local water districts, providing technical assistance to land owners in the management of their irrigation water.

In 1994, the district became involved in the Total Resource Management (TRM) Outreach Project initiated by the US Bureau of Reclamation. By taking this step, the Mobile Lab became involved in areas not strictly limited to water management, but areas that had the potential for having an impact on water. These areas, or components, included but were not limited to:

1. **Farm Management:** Economics, long-term decision-making, energy usage and efficiency.
2. **Agronomic Management:** Integrated pest management, chemical usage, soil tilth.
3. **Water Management:** Distribution uniformity, irrigation efficiency, drainage, ground water quality protection, conjunctive use.
4. **Biological Management:** Wildlife habitat, increased biodiversity.

These components provided a means by which the local project could observe on-farm practices. Also, a cooperative effort with the University of California was developed in order to bring about beneficial change, not only to a specific location, but to the industry as a whole. The industry referred to in this case was almonds, as the original steering committee for the local project decided to focus on one commodity in order to provide greater benefit to the agricultural community.

The participation of the Cooperative Extension has provided many opportunities to pursue the areas mentioned above. With then TRM Project coming to an end in September 2000, however, there will still remain some unresolved issues. Those include such things as water use efficiency, water conservation, fertility management, biodiversity on the farm, and disease management. Not to say that there are no results in these areas, but that further study would provide more conclusive findings.

In regard to water management, there is also a concern for drainage water on the west side of the San Joaquin Valley, all the way from Kern County and up to the north. A "Drainage Reduction Project" has been undertaken by the district with support from the Department of Water Resources.

This project is exploring opportunities to reduce the amount of water that goes into the farm in order to reduce drainage and deep percolation losses. This will be accomplished by monitoring irrigations through a seasonal evaluation process to determine overall irrigation efficiency. Other measures that will be used include, but are not limited to: measuring water going onto and off the field, monitoring soil moisture, using alternative forms of irrigation, and providing educational workshops for landowners.

Currently, work is being done in almonds with the anticipation of expanding and including cotton and potentially alfalfa.

Targeted Cropping Systems in Kern County include:

1. Almonds (72,600 acres, 1997)
2. Cotton (20,800 acres, 1997)
3. Alfalfa (95,000 acres, 1997)

The ability to fold these two projects together into one overall package would potentially benefit many land owners in the county, as well as others in the state. The ramifications of this could be far reaching in light of California's current water situation with the impacts to the delta.

Kings River Conservation District Work Plan
Yolo RCD CALFED Proposal (Title)

Title: On-Farm Irrigation Review Program

Project Outline

Background: The Kings River Conservation District is an agricultural region rich in diversity and production. To maintain agriculture, groundwater overdraft will need to be resolved. Approximately 2,000,000 acre-feet per year on the average are removed from groundwater storage. This results in a groundwater overdraft of approximately 270,000 acre-feet per year. Recharge of flood water and maximum utilization of surface water supplies will help overdrafted conditions. Regional irrigation efficiencies average 55-65%. Currently, local agencies consider excess irrigation on agricultural lands as a primary means of recharge. Deep percolation has contributed to aquifer contamination with salinity, nitrate, DBCP, atropine, simazine, and other agricultural chemicals.

Growers have been planting high dollar return crops such as trees and vines. Many of these new plantings are being irrigated with low volume irrigation systems and groundwater pumping. An estimated 40,000 acres per year are being converted to low volume irrigation (approximately 2-3% per year of the irrigated land within KRCD). These systems are able to function with efficiencies of 84% or better with proper management.

Overdraft has increased as growers have converted to more efficient irrigation systems. Local agencies are turning to recharge facilities as a place to store both irrigation and flood releases. Some of these facilities also serve to help control irrigation deliveries to growers. This has allowed growers to utilize surface water directly for low volume irrigation systems.

The role of the On-Farm Irrigation Review Program is to assist growers in managing their water resources with high efficiency and minimal impact on the environment. At the same time, local agencies are installing recharge facilities that will keep more of the flood releases in the area. These conjunctive use practices will reduce ground water overdraft and aquifer contamination.

Conjunctive use will reduce greater pumping in dry years. Planned, systematic recharge will help out the Delta by allowing more pumping capacity south of the Delta in drought years. Fewer flood releases to the Delta will decrease sediment and agricultural chemical transport to sensitive ecological areas and species.

The On-Farm Irrigation Review Program fits into these changes to the area by providing information services to growers that improve or maintain high irrigation efficiency. KRCD's *Irrigation News* is an avenue of outreach for solid water management info. The *Irrigation News* has entered its tenth year of bimonthly production in 1999. It is direct mailed to 9,800 growers within the Kings River service area. Not a few of these growers also own or manage property outside of the King's River area, namely in areas that receive federal water such as the Westlands Water District and Districts within the Friant Water Users Authority.

The *Irrigation News* has been reprinted and distributed as the "Irrigation Tech-Line", a similar publication that is sent to 8,300 BOR water clients in the Friant Water Users Authority service area, an area of prime concern to CALFED.

The combined total of over 18,000 regular recipients represents over 2 million irrigated acres in the San Joaquin Valley. The Irrigation News has significant potential to make a major impact on water management in the valley.

Another key outreach component is AgLine. This telephone answering service provides accurate and up to date crop ET information to hundreds of users per year. This information has been accessed and utilized by growers in prime CalFed areas.

Grower meetings, etc.: breakfast meetings, field days

Targeted Land Use within KRCD:

- | | |
|----------------------|---------------|
| 1. Alfalfa | 109,000 acres |
| 2. Cotton | 256,000 acres |
| 3. Other field crops | 153,000 acres |
| 4. Other row crops | 24,000 acres |
| 5. Citrus | 22,000 acres |
| 6. Deciduous trees | 155,000 acres |
| 7. Vineyards | 251,000 acres |

Targeted Water Quality Deterrents:

1. Salinity
2. Nitrates
3. Pesticides
4. Sediment

Measurements to be taken:

1. Irrigation system Distribution Uniformity
2. Soil Moisture content at time of evaluation.
3. Irrigation event Irrigation Efficiency
4. Irrigation water electrical conductivity and Nitrate content
5. Applied irrigation volume
6. Energy utilization if appropriate
7. Groundwater levels if appropriate

Practices to be promoted:

1. Irrigation scheduling techniques
2. Soil moisture monitoring methods
3. Nutrient monitoring and application techniques
4. Irrigation volume measurement
5. Quality hardware improvements and system design

Yolo County Resource Conservation District
Farm Edge Water Quality Workplan

Field headlands, crop borders, low corners, canals, ditches and sloughs are a management problem for all landowners. Problem weeds and weed-seed sources lead to clean cultivation or spraying. These practices lead to sediment production during irrigations or winter storms, and runoff water that is contaminated with herbicides. Significant reductions in sediment and pesticide deposition into sloughs feeding the Bay Delta system could be accomplished by installation of key land management practices on these "Farm Edges."

Planning and coordinating resource quality improvement practices and gauging how they will affect the entire farm, ranch, or wildland area is a complex process and one which most landowners have neither the time nor the information to accomplish. Government representatives who may have the expertise to assist are not usually well-met, and are, in fact, greeted with suspicion. A Farm/Resource management planning tool, which will allow private landowners to identify land conditions and the practices which will improve them according to government program standards and permits, is sorely needed. In light of expected regulations, such a planning tool, coordinated with permit and regulation requirements, and available over the internet, would vastly increase the palatability and implementation of natural resource improvement planning.

The "on the ground" portion of the Yolo County Total Resource Management Project is focused on implementation, monitoring, and communication of a specific set of on-farm conservation practices that are known to reduce movement of sediment, nutrients, and chemicals off farms and into regional waterways. The project will focus on the major cropping systems impacting water quality in Yolo County, namely those of tomatoes (in rotation), alfalfa, and rangeland. The practices to be implemented (see table below) are grouped in three categories—capture, filtration, field management and will be monitored in relation to their expected, measurable benefits. The participating farmers will choose one conservation technique from each category (for a total of three) to implement on portions of their farms during the project. Some of the cooperators have already implemented some of the practices, providing established sites for monitoring long-term projects that involve native vegetation (e.g., stream vegetation and filterstrips). The monitoring program will build on project data gathered since 1995 and will provide quantifiable support for the OnePlan project in terms of linking specific water quality benefits with specific conservation practices. Project outreach will come through field meetings, workshops, tours, educational materials and the media. All aspects of the proposed project will benefit from leveraging the activities and developments of other past and ongoing RCD projects.

Practices to be implemented (each grower to select at least one from each group)

Practice Group	Practice
A. Water & Sediment Capture	Tailwater ponds Drop structures with sediment traps at ditch-to-stream outlets
B. Water Filtration & Quality	Filter strips Roadside vegetation Hedgerows Canal bank vegetation Stream bank vegetation
C. Field Management	Cover cropping Reduced use of toxic pesticides

Targeted Land use/Cropping systems in Yolo County

1. Rangeland (?145,000 A, 1997)
2. Tomatoes (49,200 A, 1997)
3. Alfalfa (34,000 A, 1997)

Targeted Water Quality Deterrents:

1. Sediment
Soil moves from fields, channel banks and field edges into local waterways during winter storms and irrigation events when it is disturbed, not anchored with vegetation and the water is not stilled in a settling basin before running off farm. This sediment carries pollutants into Delta waterways and clogs local streams.
2. Nitrates
Nitrates are carried off fields with mobilized soils compromising both surface and ground water quality.
3. Pesticides
Organophosphate pesticides (ex. Chlorpyrifos, Diazinon) are persistent in runoff from alfalfa and tomato rotation fields where they are used in agriculture and are potentially toxic to aquatic wildlife.

Measurements to be taken:

1. Sediment:
 - a. water samples leaving conservation practice sites and "control" sites
 - b. sediment deposition levels per irrigation or storm event below conservation practice sites and "control" sites
2. Pesticides
 - a. water samples leaving conservation practice sites and "control" sites
3. Nitrates
 - a. water samples leaving conservation practice sites and "control" sites
 - b. ground water samples adjacent to conservation practice sites and "control" sites
4. Water volume
 - a. runoff from cover cropped vs. fallowed fields in winter storm events

Workplan

Task 1 – Establish Demonstration Sites

Develop new cooperators and refine existing cooperator group according to project goals.
Develop and design plans for practice implementation and monitoring

Task 2 – Further coordination and collaboration with local agencies and Cooperative Extension
Coordination meetings to determine mutual contributions and plan timeline for work.
Receive input and direction from cooperating farm advisors on monitoring design for each site

Task 3 – Project Implementation on Demonstration/Cooperator Sites
 Staged implementation according to site preparation needs and resource availability

Task 4 – Monitoring of practice impacts on demonstration sites
 Depending on the individual practice, specific monitoring will take place:

Monitoring subject	Applicable Practice
Sediment	Tailwater Ponds Sediment traps Filter strips Cover crops
Pesticides	Below treated fields before & after control structures
Nitrates	Tailwater Ponds Filter strips Sediment traps
Storm water volume	Cover crops Filter strips
Water temperature	Stream revegetation
Photomonitoring	All sites
Cost recording—using economic evaluation tool in development by NRCS State Economist for Yolo Co. RCD	All sites

Task 5 – Communicate Conservation Techniques and Project Results

- ☐ Farm Edge Winter Field Meetings regarding each practice (5-6/season)
- ☐ Refinement of Yolo County RCD “Bring Farm Edges Back to Life!” On Farm Conservation Guide
- ☐ Coordinated watershed stewardship workshops with other RCD projects
- ☐ Educational pamphlets
- ☐ Publications, articles

ATTACHMENT M

Summary of Goals

ECO-LAB Project, Mission Resource Conservation District

Services Offered to Cooperators

Evaluation of Irrigation System Performance (water use efficiency, uniformity, recommended level of improvements)

Soil typing

Evaluation of Water Use Efficiency

Water cost budget and potential decrease in cost if improvements are made

Recommended Irrigation Schedule

Fertilizer BMPs: general info and tailored to grove, using worksheets and checklists

Pesticide BMPs: general info and tailored to grove, using worksheets and checklists

Erosion BMPs: general info and tailored to grove, including diagrams

On-Farm Mulch and Compost Guidelines, Tree Mulch Recommendations

Other Activities

Annual seminars for landowners

Develop and adopt educational materials appropriate for the watershed
K-8 school

Monitoring of nitrate and phosphate levels in the creek water

ATTACHMENT H

To the CALFED Proposal Review Team:

As you go through our letters of support, you will probably notice that they are written with two different titles and two different descriptions of the sponsoring partnership. We apologize if this causes any confusion, but ask you to understand that this proposal was the work of a very broad coalition of people working across huge geographical distance and very busy lives. The finished project is a collaboration of all of our efforts and every signatory will be a valuable player in our CALFED solution. Thank you for your consideration of our proposal.

TABLE OF ATTACHMENTS

Thomas Wehri, Executive Director - California Association of Resource Conservation Districts
Arturo Carvajal, Assoc. Land & Water Use Analyst - Department of Water Resources
Jeff Vonk, State Conservationist - USDA:NRCS California
Dan Taylor, Executive Director - Yolo Audubon- California
Robert Stackhouse, Regional Resources Manager - USDI: Bureau of Reclamation
Ben Faber, Farm Advisor - Ventura County
Thomas Fayram, Deputy Public Works Director - Santa Barbara County Flood Control & Water Conservation District and Water Agency
Lon Fletcher, President, Cachuma Resource Conservation District
John Bechtold, District Conservationist, USDA:NRCS - Santa Maria
Glen Anderson, President East Merced Resource Conservation District
John Grant Kelsey, H.G. Kelsey Ranch
Mario Viveros, Farm Advisor - UCCE, Kern County
Jack Wright, District Conservationist - USDA:NRCS - Southern San Joaquin and Kern Counties
Craig Fulwyler, President Pond Schafter Wasco Resource Conservation District
Bridget Lara, Chairperson West Stanislaus Resource Conservation District
Tim Prather, IPM Weed Ecologist - UCCE Kearney Agricultural Center
Phil Hogan, District Conservationist- USDA:NRCS Yolo County
Larry Schwankl, Irrigation Specialist - UCCE:LAWR Davis
Russell Lester - Dixon Ridge Farms, Winters, Yolo County
Scott Stone - Yolo Land and Cattle
Rick and Charles Rominger, Rominger Brothers Farms - Yolo County
Scott Paulsen, Agricultural Commissioner - Yolo County
State Water Resources Control Board - Grassroots Team
Roy Sachs, Owner/Operator - Flowers and Greens - Yolo County
Robert Thayer, Professor of Landscape Architecture- UC Davis
Adele Abele Giovannetti - Abele Farms - Yolo County
Mike McElhiney, District Conservationist - USDA:NRCS- Modesto



California Association of Resource Conservation Districts

DATE: April 15, 1999

SUBJECT: Letter of Support

The California Association of Resource Conservation Districts (CARCD) supports and is an eager co-sponsor for the grant **"Getting Bay Delta Solutions on the Ground and on Line; An Ag Community delivery system to revitalize our water and ecosystem."** As a project co-sponsor CARCD will gladly lead the Education and Outreach portion of the project. This element will provide information to all local districts and entities in the state as well as the states resource owners and managers and the public.

As stated in our mission statement CARCD is committed to local Resource Conservation Districts efforts to develop a land stewardship ethic that promotes long-term sustainability of California's rich and diverse natural resource heritage. This proposal reflects an effort that will implement local leadership and will provide a means of addressing problems and issues in the delta area. The local Resource Conservation Districts involved with the sites are leaders in installing conservation at the local level.

CARCD, as a 501 © (3) non-profit association, offers unified representation and advocacy, coordination and support of district activities, and providing information, education and training programs to all our member districts. In this capacity CARCD considers this effort as an innovative method for implementing long-term resource protection, water conservation, and resource enhancement. The successful implementation of this project will be the springboard for local implementation and assistance to private ownership in all the state.

We encourage the funding of this project for it involves collaboration of Federal, State, Local and private resources which will be cost effective and results in improved and enhanced resource conditions.

Sincerely,

Thomas Wehri
Executive Director

DEPARTMENT OF WATER RESOURCES

116 NINTH STREET, P.O. BOX 942836
CRAMENTO, CA 94236-0001
(6) 653-5791



April 2, 1999

TO WHOM IT MAY CONCERN

On behalf of the Department of Water Resources, Arturo Carvajal acknowledges that the Pond-Shafter-Wasco Resource Conservation District has taken leadership in many Water Management Projects within Kern County.

The Board of Directors of this RCD has given On-Farm Irrigation Water Management first priority in their Long Range Plan. This priority has enabled the district to be involved in programs such as: (1) Mobile Irrigation Management Laboratory, since 1982; (2) Total Resources Management, since 1994; (3) Educational Workshops on Irrigation Management focusing on drainage reduction; (4) Evaluation of Seasonal Irrigation Efficiency, and others. Pond-Shafter-Wasco RCD is also a signatory of the Agricultural Water Management Council. As an active Council member, the RCD has shown interest in developing a working relationship with State-wide conservation/environmental groups, as well as with the irrigation industry.

The staff working for the Pond-Shafter-Wasco RCD has been successful in raising the necessary matching funds from the local irrigation/water districts in order to contract with State and federal entities such as: Department of Water Resources and U.S. Bureau of Reclamation. Brian Hockett, District Manager, has developed a good working relationship with University of California, Cooperative Extension Farm Advisors, with DWR's Water Conservation Office staff, with USDA, Natural Resources Conservation Service staff, with the California Association of Resource Conservation Districts and with key members of the Kern County agricultural community.

Pond-Shafter-Wasco RCD was one of the first Resource Conservation Districts in California and in the nation to sponsor a Mobile Irrigation Management Laboratory and lead by example to encourage the existence of many other Mobile Labs in California, Arizona, Florida and even overseas, Australia. The experience accumulated by both the Pond-Shafter-Wasco RCD Board of Directors and their staff will help to develop even more challenging water conservation/water management programs in Kern County. Their direct delivery of the programs to farmers allows this particular RCD to provide excellent service at a reasonable cost.

Sincerely,

Arturo Carvajal, Assoc. Land & Water Use Analyst
Division of Planning and Local Assistance
Water Conservation Office



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

430 G Street #4164
Davis, CA 95616-4164
(530) 792-5600
FAX (530) 792-5790

April 15, 1999

CALFED Evaluation Committee
1416 Ninth St., Ste. 1155
Sacramento, CA 95814

The Natural Resources Conservation Service (NRCS) strongly supports the efforts of the Yolo County Resource Conservation District (RCD) in seeking funding from CALFED for the development of a prototype California OnePlan. The OnePlan is a web-based conservation planning tool that integrates conservation information and maps with decision support systems, search engines, and interactive guides and mapping tools into a one-stop-shop. A farmer or rancher can use these tools to evaluate and assess resources and build farm and ranch plans that address resource concerns identified by the NRCS and other agencies.

It is the goal of the Yolo RCD to use a CALFED grant to build and coordinate the necessary partnership within the district and others in the Bay-Delta region, that will make possible the active participation of farmers, conservationists, and local, state and federal regulatory agencies. This partnership is integral to the process in order to guarantee that the California OnePlan meets user expectations.

The NRCS in California, Idaho and Michigan are working together to develop these tools via a Business Process Reengineering project with the financial and technical support of the NRCS at the national level. These tools will need local resource data and some customization for use at the local watershed level.

The NRCS in California also supports this effort through the implementation of an accelerated soil survey program that will speed up the process of conducting soil surveys, digitizing soil maps, and certifying soils data for public use. The Yolo County soil survey has already been recompiled and digitized through a partnership with the Yolo RCD. We are developing plans to do the same for other surveys in the Bay-Delta region.

I am pleased with the results of our partnership with the Yolo County RCD over the years and the positive impact it has had in implementing sound resource management. I look forward to attaining even higher levels of conservation through the California OnePlan effort.

JEFFREY R. VONK
State Conservationist

The Natural Resources Conservation Service,
formerly the Soil Conservation Service,
is an agency of the
United States Department of Agriculture

National Audubon Society California



555 Audubon Place
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National Audubon Society
Chapters of California

Altaville
Buena Vista
Central Sierra
Conejo Valley
Eagle Lake
Eastern Sierra
El Dorado
Fresno
Golden Gate
Kern
Kerncrest
Laguna Hills
Lake Almanor
La Purisima
Los Angeles
Madrone
Marble Mountain
Marin
Mendocino Coast
Monterey Peninsula
Morro Coast
Mount Diablo
Mount Shasta Area
Napa-Solano
North Coast
Oblone
Palomar
Paisos Verdes/South Bay
Pasadena
Peregrine
Plumas
Pomona Valley
Redbud
Redwood Region
Sacramento
San Bernardino Valley
San Diego
San Fernando Valley
San Joaquin
Santa Barbara
Santa Clara Valley
Santa Monica Bay
Sea and Sage
Sequoia
Sierra Foothills
South Coast
Stanislaus
Tulare County
Ventura
Whittier
Wintu
Yolo
Yosemite Area

April 14, 1999

Dear CAL/FED Proposal Review Committee:

I am writing in support of the Yolo County Resource Conservation District's (RCD's) proposal titled "The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, *A First Phase in the California-One Plan*".

In partnership with the Yolo County RCD, Audubon-California has recently initiated a CAL/FED-funded program titled "The Union School Slough Watershed Improvement Program". Several of the landowners that are existing and potential cooperators in the Yolo County RCD's Total Resource Management Project are located within the Union School Slough watershed area. As such, the proposed project will offer an extended benefit to our existing project by expanding opportunities for landowners within the watershed to participate in Total Resource Management on their properties. In addition, the California-One program would provide landowners the ability to assess many of their resource management needs from their own offices and on their own schedule via the Internet. This program will help assure that landowners' activities meet resource agency requirements for cost-share programs and compliance with environmental regulations, and thereby increase the possibility of reaching additional participants throughout the watershed area.

We believe that this project will make the funds you have committed to the Union School Slough Watershed Improvement Program have an even larger impact on resource stewardship within Yolo County. We are hopeful that you will fully fund this innovative project.

Sincerely,


Dan Taylor
Executive Director



Bobelaine Sanctuary • California Legislative Affairs Center • Los Angeles Education Center
Kern River Preserve • Mayacamas Mountain Sanctuary • McVicar Sanctuary • Richardson Bay Center and Sanctuary
Starr Ranch Sanctuary • Paul L. Wattis Sanctuary



United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825-1898

IN REPLY
REFER TO:
MP-410
ENV-4.00

APR 16 1999

To: CALFED Proposal Review Team

Subject: Getting Bay-Delta Solutions On the Ground and Online: An Agricultural Community Delivery System to Revitalize our Water and Ecosystems

Dear Team Members:

The Yolo County Resource Conservation District/California Association of Resource Conservation District's partnership project proposal, "Getting Bay-Delta Solutions On the Ground and Online: An Agricultural Community Delivery System to Revitalize our Water and Ecosystems," builds upon and expands the successful work carried out by four conservation districts over the last 5 years in the Total Resource Management Model Farms (TRM) project. Reclamation has funded the TRM project through our Challenge Grant Program. The TRM project works closely with landowners and the public to put water and habitat enhancement practices on the ground and transfers these models through an extensive outreach program to a wide audience of farmers, ranchers, agencies, government officials, and the public.

The TRM project continuously researches and develops new practices, all of which employ adaptive management techniques. The project has enabled Reclamation and others to learn from the individual sites, identify barriers to implementing conservation measures, and identify opportunities for success. The expanded partnership of seven project sites offers CALFED a tremendous collective capacity to innovate and implement best management practices for water quality and efficiency within farm-friendly ecosystem enhancement projects.

Reclamation has made the initial startup investment for the TRM project implementation and the early program difficulties have been resolved. By funding this project CALFED will receive immediate implementation of a variety of best management practices with well developed monitoring and evaluation processes.

Our experience managing the TRM Challenge Grant gives us confidence in this coalition of conservation districts (with the grant administered by the Yolo County Resource Conservation District). They are able to offer CALFED a unique opportunity to achieve short and long-term implementation goals and we urge you to fully consider funding this valuable project.

Sincerely,

Robert F. Stackhouse
Regional Resources Manager

Cooperative Extension
Division of Agriculture and Natural Resources
University of California

**VENTURA COUNTY**

669 County Square Dr., Suite 100
Ventura, CA 93003-5401
Phone: (805) 645-1451
FAX: (805) 645-1474

April 15, 1999

Kathleen Robins
CALFED Bay-Delta Program
Proposal Review Board
1416 Ninth St., Suite 1155
Sacramento 95814

Dear Ms. Robins:

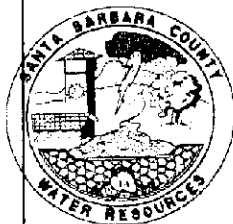
This letter is in support of the proposal: The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program. I have worked closely with the Cachuma Resource Conservation District in improving water use among growers in our area. The CRCD has an active program in helping growers better manage water. We have collaborated on numerous workshops over the years, as well as research programs. Aside from these extension activities, one of their most effective tools has been the Mobile Lab. This hands-on program has been one of the most potent methods of improving grower water use efficiency. It's a voluntary program that I encourage growers to use and some very significant changes can result after an evaluation has been performed and the recommendations followed.

I wish more areas supported this kind of program. It is a non-threatening way to really help growers make some major changes in their water management practices. Many times growers find it hard to believe that sometimes very small changes can make big changes. The Mobile Lab shows a grower how to make those changes.

If you would like to discuss this aspect of the proposal more fully, please do not hesitate to call me.

Sincerely,

Ben Faber
Farm Advisor



Santa Barbara County Flood Control & Water Conservation District and Water Agency

123 E. Anapamu Street, Santa Barbara, California 93101

(805) 568-3440 Fax: (805) 568-3434

Web: <http://www.publicworks.sb.org/>

Phillip M. Demery
Public Works Director

Thomas D. Fayram
Deputy Public Works Director

April 15, 1999

Kathleen Robins
CALFED Bay Delta Program
Proposal Review Board
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Dear Ms. Robins:

I am writing in support of the Cachuma Resource Conservation District's application for a grant from the Bay-Delta Water Quality and Use Implementation Program. Their Total Resource Management (TRM) Program provides an excellent model for the Bay-Delta program, and has a proven track record. The TRM Program provides a strong working group of sites that are already addressing the issues of agricultural water use and quality problems, and can contribute important data on managing such problems as sediment and pesticide loads, and elevated water temperatures due to riparian habitat loss.

Our past work with the Cachuma Resource Conservation District has proven their staff to be competent and qualified. Grant support of their TRM Program will add a strong component to your Bay-Delta Water Quality and Use Implementation Program.

Sincerely,

Thomas D. Fayram
Deputy Public Works Director

**Cachuma Resource Conservation District**

USDA Service Center - 920 East Stowell Road - Santa Maria, CA 93454 - Phone: (805) 928-9269 - Fax: (805) 928-9544

April 14, 1999

CALFED Bay-Delta Program
Proposal Review Board
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Dear Sir or Madam:

Our board encourages you to consider funding the California Association of Resource Conservation District's grant proposal entitled "The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use implementation Program". We have reviewed the proposal and believe that it strongly supports the CALFED mission.


for J. Garmache, President

CONSERVATION - DEVELOPMENT - SELF-GOVERNMENT

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

920 E. Stowell Road
Santa Maria, CA 93454
(805) 928-9269 ♦ Fax: (805) 928-9644

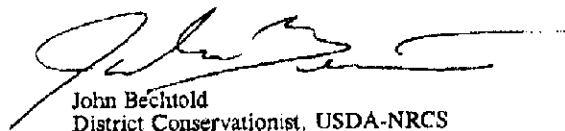
April 14, 1999

TO: CALFED Bay Delta Program
Proposal Review Board
1416 Ninth St., Suite 1155
Sacramento, CA 95814

SUBJECT: California Association of Resource Conservation District's Grant Application

Dear CALFED:

The Natural Resources Conservation Service field office in Santa Barbara County fully supports the California Association of Resource Conservation District's grant application, "The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program". I have reviewed the proposal and believe it supports the CALFED mission.



John Bechtold
District Conservationist, USDA-NRCS

The Natural Resources Conservation Service,
formerly the Soil Conservation Service,
is an agency of the
United States Department of Agriculture

AN EQUAL OPPORTUNITY EMPLOYER

EAST MERCED RESOURCE CONSERVATION DISTRICT

2135 W. Wardrobe Ave., Suite C
Merced, Ca 95340
209-722-4119

April 14, 1999

To the CALFED Proposal Review Team:

I am writing on behalf of the East Merced Resource Conservation District in support of the current CALFED proposal submitted by Kathleen Robins from the California Association of Resource Conservation Districts. Our district's goals are very similar to those of CALFED, we are eager to join other RCD's to regionally improve water quality, improve habitats, and safeguard our resources.

Our District's goals are as follows:

- Generation of base line resource data which includes delineation of habitats, soils, geologic information, and the Merced Groundwater Basin, information critical for planning in Merced County, including advising on land use decisions in our District.
- Preservation of agricultural lands and open space, including vernal pools and jurisdictional wetlands.
- To conduct studies on water quality and quantity, surface and groundwater.
- To foster soil quality and stewardship of local lands.
- To improve air quality.
- To provide environmental education.
- To work toward the preservation of wildlife habitat and enhancement thereof through conservation efforts.
- To continue pesticide reduction programs patterned after the BIOS model.

CALFED is the beginning of realizing our district's and local landowners' goals. We believe that the CALFED proposal along with local support through the Resource Conservation District, will be the beginning of a regional environment improvement plan, which will allow and foster the goal of a better life for everyone. We urge your approval for funding for this project.

Sincerely



Glenn Anderson
President
East Merced Resource Conservation District

**H. G. KELSEY RANCH
P.O. BOX 324
SNELLING, CA 95369
209-563-6573**

April 14, 1999

To the CALFED Proposal Review Committee:

I am writing in support of the East Merced Resource Conservation Districts' Proposal to you for water quality monitoring. The district is proposing that we set up a mobile water quality laboratory to provide data for non point water pollution. I feel this will help local landowners reach attainment for current water quality standards. I also believe this will foster futures studies which will provide solutions for an improved environment.

My family has been farming and ranching in the Merced River watershed since 1852. The landscape is changing rapidly as economic and population pressures increase on the limited resources. I feel the CALFED program will begin a process of habitat improvement, better water quality, conservation of ranch lands, and preservation of open space. These are all the things which I would like to be part of, ensuring a way a life for generations to come and providing a cleaner, healthier, environment for California.

Sincerely yours,



Jon Grant Kelsey



University of California
Cooperative Extension
County of Kern

1031 South Mt. Vernon Avenue
Bakersfield, CA 93307
(805)868-6200
FAX (805)868-6208

To Whom It May Concern:

We, in the University of California Cooperative Extension Office of Kern County, have been cooperating with Brian Hockett from the Pond-Shafter-Wasco Resource Conservation District on projects of mutual interest for both agencies and for the benefit of Kern County agriculture.

For the last four years, we have been working in the Farmers for Agricultural Resource Management (F.A.R.M.) Project. Our role has been to monitor and demonstrate unconventional management practices in almond orchards in Kern County. We have demonstrated and documented the importance of monitoring pests for their control. We have examined and demonstrated the benefit's and detriments of cover crops. We have also shown that there is no benefit to fertilize almond orchards with excessive amounts of nitrogen. The implementation of these cultural practices in our almond orchard is going to be of vital importance for our almond industry in Kern County.

At the present time, Mr. Hockett and I are cooperating in two additional projects. In one, we are determining the benefits of no pruning during the dormant season. If dormant pruning is eliminated, burning will also be eliminated at winter time. Burning pruning brush in the winter has become an issue in the Central Valley.

The second project is to demonstrate to almond growers how to grow almonds using less toxic pesticides. We will be losing all organophosphate pesticides in the near future. With this project, we will demonstrate the benefits and detriments of a non-toxic pesticide program.

To bring these projects to competition, it is vital that we continue working with the same level of cooperation as we have done in the past.

Sincerely,

Mario Viveros
Farm Advisor

MV:cr



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

1601 New Stine Rd., Suite 270
Bakersfield, CA 93309
(805) 861-4129
(805) 861-4333 FAX

April 14, 1999

To Whom It May Concern:

My agency, the USDA Natural Resources Conservation Service, works very closely with the Pond-Shafter-Wasco Resource Conservation District. Their leadership in Water Management Issues throughout Kern County has helped our agency promote water conservation in the Southern San Joaquin Valley.

Because of the Resource Conservation District's Mobile Lab program our local Field Office has been able to provide growers in Kern County with needed funding. Local growers can now upgrade there irrigation systems through our Nationwide program the Environmental Quality Incentive Program (EQIP).

Over the last five years my agency has also cooperated with Mr. Hockett in his efforts to educate growers and irrigators in the County. Our annual Irrigation Workshop targets 80 to 100 growers and irrigators interested in learning about new efforts in water conservation. Sessions in English and Spanish are provided. The workshop grows bigger and better each year. This past year saw the development of an irrigation manual. This manual is printed in both English and Spanish and was a direct effort of Mr. Hockett and the Pond-Shafter-Wasco Resource Conservation District.

The Natural Resource Conservation Service supports Mr Hockett and the Pond-Shafter-Wasco Resource Conservation District in its efforts to gain more funding for it's expanding programs in Water Conservation, Water Quality, Flood Protection, and Pesticide and Fertilizer usage.

Sincerely

Jack Wright
District Conservationist



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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.



Pond-Shafter-Wasco Resource Conservation District

1601 New Stine Rd., #270
Bakersfield, CA 93309
(805) 861-4129 ext 5
Fax (805) 861-4333

April 14, 1999

Board of Directors

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Director

BRIAN HOCKETT
District Manager

CHRISTINE AGUIRRE
District Secretary

PETE WOLFFSEN
Irrigation Technician

To the CalFed Proposal Review Team,

The Pond-Shafter-Wasco Resource Conservation District has been involved in the Total Resource Management Outreach Project since November of 1994. This project is funded by the U.S. Bureau of Reclamation to do on the ground, real time analysis of what takes place on the farm.

Various components of the project include:

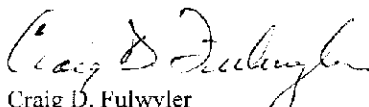
1. **Farm Management:** Economics, long term decision making, energy usage and efficiency.
2. **Agronomic Management:** Integrated pest management, chemical usage, soil tilth.
3. **Water Management:** Irrigation efficiency, drainage, ground water quality protection, conjunctive use.
4. **Biological Management:** Wildlife habitat, increased biodiversity.

All of these areas have been pursued to one degree or another, and are a vital component of our project here in Kern County. Through this project relationships have been revitalized, enabling local agencies to pursue venues they might not otherwise have been able to pursue. Participation by the University of California Cooperative Extension (UCCE) has to a large degree provided the means by which various tasks are accomplished.

Over the last 5 to 6 years, the UCCE in cooperation with the RCD, has been instrumental in the implementation of irrigation workshops provided to local land owners. These workshops have also been made possible with the help of the Natural Resources Conservation Service, the Department of Water Resources, and even Pacific Gas & Electric.

The Pond-Shafter-Wasco RCD is interested in furthering the efforts that have been undertaken through our local project by looking at other opportunities for future funding. With the limitations that are being placed on the TRM project by the Bureau of Reclamation, we would encourage CalFed to become involved in this worthwhile endeavor. The issues related to water continue to escalate, causing irrigation water management to be more of a concern. We are ready to address some of those issues with the Irrigation Mobile Lab through our local project.

Sincerely,


Craig D. Fulwyler
President

CONSERVATION • DEVELOPMENT • SELF-GOVERNMENT

I - 0 1 9 5 6 1

I-019561

220 North El Circulo
 Patterson, CA 95363
 TEL. (209) 892-5026
 FAX (209) 892-5136



Board of Directors
Bridget Lara, Chairperson
 Ray Flanders, Everett Souza, Jr. Tom Maring,
 Tom Morris, Art Filice, Jr. Ray Murphy
Associate Directors
 Norman Crow, George Klopffing

April 15, 1999

To the CALFED Proposal Review Team

I am writing on behalf of the West Stanislaus Resource Conservation District in support of the Getting Bay Delta Solutions on the ground and online, an Agriculture community delivery system to revitalize our water ecosystem, CALFED proposal submitted by the California Area Resource Conservation Districts. Our Resource Conservation District is eager to join with other RCD's to effect locally led solutions to water quality and habitat issues outlined by CALFED. This proposal builds upon our past work, particularly our experiences in the US Bureau of Reclamation-funded Total Resource Management Challenge Grant. This project will provide our region with locally-led proven techniques to address our pressing water quality and habitat issues. We have many growers who are willing to participate in this type of program.

I have full confidence that CARCD's water quality and habitat implementation Getting Bay Delta Solutions on the ground and online, an Agriculture community delivery system to revitalize our water ecosystem proposal is a strong and far reaching solution to many of the issues outlined in CALFED's PSP. We believe this proposal will significantly help to achieve CALFED's target goals in the West San Joaquin Watershed, thus increasing even further the West Stanislaus Resource Conservation District's capacity to be a major facilitator of the work that achieves those goals. We urge your approval of funding for this project.

Sincerely,

Bridget Lara,
 Chairperson, West Stanislaus
 Resource Conservation District

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

KEARNEY AGRICULTURAL CENTER
9240 South Riverbend Avenue
Parlier, California 93648
TEL (559) 646-6500
FAX (559) 646-6593

April 15, 1999

Kathleen Robins
CARCD
3404 Monte Vista
Davis, CA 95616

Dear Ms. Robins:

Developing a mobile laboratory to help farmers improve their irrigation practices should improve water quality. I support your efforts to develop such a mobile laboratory that can be used to aid farmers through close interaction and site-specific recommendations. I have developed an excellent working relationship with the Kings River Conservation District. I would like to use the mobile laboratory as an avenue to present my conclusions to farmers and to have those conclusions evaluated by farmers.

In Fresno and Tulare counties there have been problems with off-site movement of herbicides. Some of these herbicides are found in about 30% of the wells that have been tested. The mobile laboratory will be able to address some of the core problems that lead to off-site movement of herbicides.

I am glad you are pursuing funding for this laboratory and I look forward to working with those responsible for working with the laboratory should funding be obtained.

Sincerely,

Timothy S. Prather
IPM Weed Ecologist
UCCE Statewide IPM Project



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

221 West Court St., Suite 1
Woodland, CA 95695
(530) 662-2037
FAX (530) 662-4876
E-Mail phogan@ca.nrcs.usda.gov

April 15, 1999

To: The CALFED Proposal Review Team:

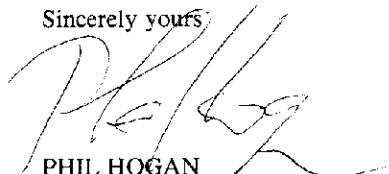
I am writing to support the proposed partnership project, Getting Bay-Delta Solutions on the Ground and Online: An Ag Community Delivery System to Revitalize Our Water and Ecosystems.

This proposal builds upon and expands the successful work carried out by four Resource Conservation Districts over the last five years. Funded by the USDI Bureau of Reclamation Challenge Grant Program, the Total Resource Management Model Farms project (TRM) has worked closely with landowners and the public to put water and habitat management enhancement practices on the ground, and to transfer these models through an extensive outreach program to a wide audience of farmers, ranchers, agencies, government officials, and the public.

The project has continuously researched and developed new practices, all of which employ adaptive management techniques, learning from individual site and collective failures and successes. What the partnership of seven project sites brings to the CALFED table is a tremendous collective capacity to innovate and implement BMPs for water quality and efficiency, and farm-friendly ecosystem enhancement projects. The TRM model is on the ground and functioning now. The start-up investment has been made, and the "bugs" in the program have been worked out. Funding this project will buy CALFED immediate implementation practices, complete with a well-developed monitoring and evaluation process.

Because of its history of a successful TRM project, I have full confidence that this coalition of Resource Conservation Districts is on the right track to achieve CALFED's short and long-term goals. I urge you to give it your highest consideration.

Sincerely yours,



PHIL HOGAN
District Conservationist

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age disability, political beliefs, sexual orientation, and mental or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication or program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5864 (voice or TDD). USDA is an equal opportunity provider and employer.

COOPERATIVE EXTENSION
UNIVERSITY OF CALIFORNIA

DAVIS, CALIFORNIA 95616

REPLY TO: LAWR - Hydrologic Science
235 Veihmeyer Hall
(530) 752-4634
Fax: (530) 752-5262
E-Mail: ljschwankl@ucdavis.edu

April 15, 1999

Dear CAL/FED Proposal Review Committee:

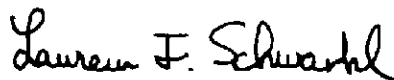
I would like to express my support for the Yolo County Resource Conservation District's (RCD) proposal **"The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A First Phase in a California One Plan."**

I am the University of California Cooperative Extension Irrigation Specialist in the Department of Land, Air, and Water Resources at UC Davis, and I have been on the Technical Advisory Committee for one of the projects of the Yolo County RCD. I have also provided technical support on irrigation and water-use issues.

The project for which they are requesting funding provides many practical solutions to water quality problems. The practices they are suggesting are implementable and would fit into common farming practices. The California-One Plan aspect of the proposal is an innovative approach to farm planning that should be done to make approaches to conservation more effective. More farm and natural resource planning is needed and this tool would allow farmers, who are the most familiar with their property and the resource concerns, to plan in a guided way that ensures that regulations and permit needs are met.

Please provide funding for this important project.

Sincerely,



Lawrence J. Schwankl, Ph.D.
Irrigation Specialist

Growers

Since 1883

Processors

**ORGANICALLY GROWN WALNUTS**

Dear CAL/FED Proposal Review Committee:

4/14/99

I would like to express my support for the Yolo County Resource Conservation Districts' (RCD) CAL/FED Proposal. The name they have given this proposal is: **"The Total Resource Management Project as a Model For a Bay-Delta Quality and Use Implementation Program, A first Phase in a California One Plan"**.

My family has farmed in Yolo and Solano Counties for over 25 years, and in Santa Clara County for almost a hundred years prior to that. We have over 230 acres of walnut orchards. These orchards have been converted to organic production practices over the past ten years. I have worked closely with the Yolo RCD on production and conservation practices that have contributed to the quality of my farm and my overall operation. These practices have resulted in significant reductions of off-farm pollution, which would have ultimately ended up in the Delta or in the ground water.

The proposal that they have submitted to you includes those practices that others and I have implemented. It also includes work on what they are calling the CAL-One Plan. This would be a planning tool, available over the Internet, that would guide growers like myself through a farm and conservation planning process. This process would help us meet all the requirements of the agencies we might need to get permits from. It would also help inform us of the various cost-share programs that are available to help us implement these projects. This approach would be simpler, quicker, and far more effective than the current system.

I urge you to fund this project. I know that it will increase the number of farms that would use these valuable practices. I believe it will help them be able to get the information they need to try the conservation methods that others and I have found to be very effective. The more landowners using these methods to improve water and soil quality, the more effective we will be able to conserve and improve our invaluable and irreplaceable resources.

Sincerely,

Russell Lester

Russ & Kathy Lester • Putah Creek Road • Winters, California 95694-9612
530/795-46195430 • FAX 530/795-5113



April 13, 1999

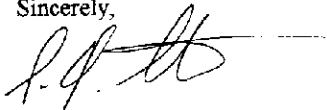
Dear Cal-Fed Proposal Review Committee:

I am writing to offer my full support for the grant proposal that the Yolo County Resource Conservation District (RCD) is submitting to you. The project is being called: **"The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A first phase in a California One Plan"**

I am a cattle rancher in western Yolo County. I have worked with the RCD on projects on my ranch that has helped improve the quality of the overall operation. It is clear to me that the RCD is committed to improving our natural and agricultural resources and not just using "band-aid" style fixes. The project they are asking you to fund will assist and encourage landowners like myself to improve the land and resources on our own, without government regulation and without mandates. They are also requesting support for an internet-based tool to be used as a means of doing conservation and farm planning. This would allow us to do it in the privacy of our own offices or homes. That approach is preferable to nearly all of the landowners that I know.

I readily give this RCD project my full support. Please give it yours by funding it fully.

Sincerely,



Scott A. Stone

ROMINGER BROTHERS FARMS

A DBA OF A. H. ROMINGER & SONS, INC.

RICK S. ROMINGER

CHARLES A. ROMINGER

BRUCE J. ROMINGER

28800 County Road 29, Winters, CA. 95694

Phone (530) 668-1558

Fax (530) 669-6814

April 12, 1999

Dear CAL/FED Proposal Review Committee:

I am writing in support of the Yolo County Resource Conservation Districts' (RCD) Proposal to you. The project is titled: "The Total Resource Management Project as a Model for a Bay-Delta Program, A first phase in a California One Plan."

We are farmers in Yolo County. Along with other family members we farm more than 3000 acres. Due to the public's increasing concern with non-point source pollution, we are paying more attention to the effects of common farming practices.

Our local RCD has been a leader in developing practical solutions with multiple benefits.

The proposal that the Yolo County RCD is submitting to you will help farmers like us install some practices that will help to keep sediment and fertilizer on the farm and out of our waterways. At the same time we can provide important wildlife habitat. This is a project worthy of your support. We urge you to fund this project fully.

Sincerely,

Rick S. Rominger
Rick Rominger

Charles A. Rominger
Charlie Rominger



County of Yolo

70 COTTONWOOD STREET

WOODLAND, CALIFORNIA 95695-2557

(530) 666-8140

FAX (530) 662-6094

SCOTT T. PAULSEN
AGRICULTURAL COMMISSIONER
SEALER OF WEIGHTS AND MEASURES

April 15, 1999

Dear CAL/FED Proposal Review Committee:

I would like to urge your support of the proposal that the Yolo County Resource Conservation District is submitting to you. The project is titled: **"The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A first Phase in a California One Plan."**

As Yolo County Agricultural Commissioner, one of my key responsibilities and concerns is weed management. Many of our major weeds are reaching serious levels. Controlling them requires continually fine-tuning the use of existing herbicides, the use of new – limited spectrum – herbicides that rarely are developed, and constant physical control measures such as disking or scraping. During storms or irrigations, water runoff that flows over areas managed this way picks up either sediment or residual pesticides. One of the many management practices proposed in the RCD project involves alternative management that would reduce both of these potential pollutants.

I am currently working with the RCD in a joint effort to unify local organization in their awareness and management of serious weeds in Yolo County. The project they are proposing to you would implement practices that could make a dramatic difference in reducing water quality degradation if implemented on a broader scale.

I enthusiastically support this project and urge you to fund it fully.

Sincerely,

Scott T. Paulsen
Agricultural Commissioner

clg



Winston H. Hickox
Secretary for
Environmental
Protection

State Water Resources Control Board

Division of Water Quality

901 P Street - Sacramento, California 95814 • (916) 657-0756
Mailing Address: P.O. Box 944213 • Sacramento, California • 94244-2130
FAX (916) 657-2388 • Internet Address: <http://www.swrcb.ca.gov>



Gray Davis
Governor

April 15, 1999

Dear CAL/FED Proposal Review Committee:

We are writing to urge your support for the Yolo County Resource Conservation District's proposal entitled "The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A First Phase in a California One Plan."

We work in the Division of Water Quality at the State Water Board, which has the lead responsibility in California for the protection and improvement of water quality. We have worked with the RCD in Yolo County and have first-hand experience with some of the practices being proposed through the project. We are confident that these practices are a technically sound approach to important water pollution problems and are a considerable advance over some other methods currently used to reduce silt and chemical runoff into surface waters.

Having observed over the last several years how the RCD works, we are confident in its ability to work effectively to accomplish the goals of the project, including the work on the internet-based farm resource planning tool (an exciting project). We know that the RCD is committed to the improvement of natural resource quality in ways that are both practical and accomplishable.

Sincerely,

Robin McCraw *Greg Frantz*

Grassroots Team
Victor de Vlaming, Greg Frantz,
Kathleen Groody, Stephan Lorenzato,
Robin McCraw, Michael Perrone

Michael Perrone
Kathleen Groody
Stephan Lorenzato
Victor de Vlaming

California Environmental Protection Agency



FLOWERS & GREENS
35717 Lasiandra Lane
Davis, CA 95616

April 15, 1999

Dear CAL/FED Proposal Review Committee:

I would like to offer my full support for the grant proposal that the Yolo County Resource Conservation District (RCD) is submitting to you. The project is called **"The Total Resource Mangament Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, *first phase in a California OnePlan.*"**

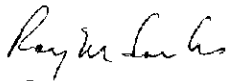
I am a farmer in Yolo County , and have been for 10 years, and have worked with the RCD for 3 years. They are very active, proactive and working on solutions that actually work into the practical management of a farm.

I use the Internet and support the Yolo County Resource Conservation District's proposal to you to create the Yolo OnePlan. I support the RCD in the creation of the prototype site for the California OnePlan here in Yolo County. Using the Internet to provide farmers with opportunity to go through guided steps in conservation planning is a good idea. We are interested in improving our land and water resources and this site would make that process much easier. I believe that the freedom and flexibility of an Internet-based farm planning tool would benefit my operation and others as well.

This project is important to me because I find it much more convenient to access information on line than to travel to the RCD office. Also, by creating an interactive web site RCD will make it possible to fully utilize their expertise as well as that of other farm-planning agencies.

I am willing to work with the RCD to help structure the plan to fit the needs of farmers, and give my full support to this project. Please fund this worthwhile project.

Sincerely,



Roy M. Sachs; Owner-operator

Y O L O C O U N T Y

FLOOD CONTROL &
WATER CONSERVATION
DISTRICT



April 16, 1999

Re: The Total Resources Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, *A first Phase in a California One Plan.*

Dear CALFED Proposal Review Committee:

This letter is in support of the above reference proposal being submitted by the Yolo County Resource Conservation District (RCD). As a Director on the Board of the Yolo County Flood Control & Water Conservation District, I can advise you that in the past our Board has supported these types of activities carried out by the RCD. By providing in-kind contribution of equipment time and operators to the RCD for the completion of some of it's projects. We are prepared to provide the same support for the proposal as submitted.

We encourage your funding of this program.

Sincerely yours,

Antonio Fernandez, Jr.
Director

34274 State Highway 16
Woodland, CA 95695
(916) 662-0265
FAX (916) 662-4532

General Manager
James F. Eagan

PRESIDENT
Deane Chambers
FIRST VICE PRESIDENT
Glenn Stone
SECOND VICE PRESIDENT
Eric Paulsen
SECRETARY/TREASURER
Dorothy Stone
1774730000000000

American Farm Bureau Federation/California Farm Bureau Federation

YOLO COUNTY FARM BUREAU

P.O. Box 1836, Woodland, California 95776
(530) 662-6316 • FAX (530) 662-8811

April 16, 1999

Dear CAU/FED Proposal Review Committee;

I am writing this letter in support of the Yolo County Resource Conservation District's (RCD) Proposal to you. The project is titled: "The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A first Phase in a California-One Plan". This proposal addresses ways that Farmers and other private landowners can make relatively simple land management changes that will improve the quality of the water flowing off their property.

I am the Chair of the Yolo County Farm Bureau's Water Committee. We feel that the projects and practices proposed in this project are of a type that would be acceptable to local landowners and that they would be willing and able to implement them. It would be a means to contribute to water quality improvement that would fit within our normal agricultural practices.

I also think the California-One Plan, using the internet to provide farmers with the opportunity to go through guided steps in farm planning, is a very appealing idea. We are interested in keeping up, and improving our land and water resource quality. This kind of tool would make that process easier for us to implement.

Practical and realistic solutions to water issues are hard to find. I urge you to support this project, which provides opportunities for local action on regional issues of great importance.

Sincerely,

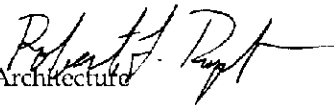


Stan Lester
Chair, Water Committee

TOTAL P.01

To: CAL/FED

From: Rob Thayer, FASLA
Professor of Landscape Architecture



Re: Yolo County Resource Conservation Districts' Proposal

Date: April 14, 1999

I am writing in support of the Yolo County Resource Conservation Districts' Proposal to you. The project is titled: ***"The Total Resource management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A First Phase in a California One Plan."***

I am a professor of Landscape Architecture at UC Davis and a professional land planner in the Sacramento Valley. I have a strong interest in watershed based approaches to management of the land and methods which translate from one management activity to another.

The problems and issues that the RCD will be addressing in this project are of great importance in our area and across the state. The methods and technologies are also very transferable to other areas. This project would be of great benefit to landowners and to water quality improvement locally and beyond. The benefit to the wildlife that utilizes our water resources goes without saying.

The California-One plan is a step in resource-management planning that flows naturally from internet technology that is now available. More of this type of broad-scale planning is needed. This approach would allow farmers to work through their resource management needs in their own offices and in ways that fulfil the requirements of government programs, should they decide to apply for program funds.

I support this project enthusiastically. I urge you to fund it completely.



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of farming
and ranching
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Located on
Co. Road 95
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and 16

Mailing
1517 Midway Drive
Woodland, CA 95695

April 15, 1999

Adele Abele Giovannetti
d.b.a. ABELE FARMS
P. O. Box 476
Yolo, California 95697-0476
Phone: 530-661-0237
Fax: 530-661-7079
E-mail: abelefarms@yolo.net

Dear CAL/FED Proposal Review Committee:

In Reference to:

"The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, first phase in a California One Plan." Let me offer my full support for the grant proposal that the Yolo County Resource Conservation District is submitting to you.

I am a fourth generation farmer on property my Great Great Grandfather, John Bemmerly, first settled in 1852. Since 1980 I have been the active decision maker for all of the farms endeavors. Early on, I discovered the benefits of working with the RCD to assist me in making improvements on my farm. I find them willing to listen to my particular problems and together we work towards a solution. Our relationship is on going. With the one practice in place we move on to another. There will always be a need for fine tuning and improving both land and farm procedures.

The internet has been a tremendous communication tool for me. To be able to access Yolo County RCD via the Yolo OnePlan would be time saving to say the least. I support the RCD in the creation of the prototype site for the California OnePlan here in Yolo County. Using the Internet to provide farmers with opportunities to go through guided steps in their farm planning is an idea worthy of time and money spent towards its accomplishment. My land is very important to me and to my adult children. Improving our land and water resources via computer site would make that process of planning and implementation much easier. An internet-based farm planning tool would benefit myself and others by giving us freedom to access this information any time day or night. It would also provide the flexibility of communications and exchange of ideas between farmers and RCD personnel. In farming, office hours and project planning are often done after the sun goes down.

It is my believe this project is important because it is the way the future of things will be; the sooner we move ahead the more informed we will be. In order for this project to be successful it will need input and cooperation from many. I am willing to work with the RCD to help structure the plan to fit the needs of farmers, and give my full support to this project. For these reasons I consider this a worthwhile project and ask that it be funded.

Sincerely,

Adele Abele Giovannetti

CALFED Bay-Delta Program
1416 Ninth St., Ste. 1155
Sacramento, Ca. 95814

April 16, 1999

Re: Letter of Support for Yolo County RCD/Calif. Assoc. of Resource Conservation Districts
1999 Grant Proposal
GETTING BAY DELTA SOLUTIONS ON THE GROUND AND ONLINE

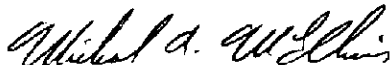
The East Stanislaus Resource Conservation District (RCD) Board of Directors met April 8, 1999 and the West Stanislaus Resource Conservation District Board of Directors met April 14, 1999 and unanimously voted to support the grant proposal application from the Yolo County RCD/California Association of Resource Conservation Districts as stated above. Stanislaus Area RCDs have been actively engaged in finding and implementing solutions to water quality concerns in the lower San Joaquin River and tributaries for many years. The RCD/NRCS conservation partnership is strong and effective in Stanislaus County.

These RCDs have worked cooperatively with a number of Local, State and Federal agencies to reduce pesticide runoff from agricultural fields in Stanislaus County. The Mobile Irrigation Laboratory is essential to help growers understand how they can improve on their irrigation methods to improve efficiency and reduce runoff. We believe the type of work proposed will result in new methods of reducing pesticides, nitrates and sediment that presently impact the CALFED Bay Delta Area.

The Natural Resources Defense Council's "Agricultural Solutions: Improving Water Quality in California Through Water Conservation and Pesticide Reduction" states that RCDs can play a valuable role in offering technical assistance and promoting sustainable farming practices. (NRDC-March 1998)

We are presently implementing the USDA Natural Resources Conservation Service's Environmental Quality Incentives Program that provides incentives to farmers for implementing Best Management Practices. We believe that more on-farm practices will be adopted if this grant is funded. Soluble pesticide runoff is a critical resource concern in this area.

As the District Conservationist, I fully support the efforts identified in this grant proposal.



Michael McElhiney
District Conservationist
USDA Natural Resources Conservation Service
3800 Cornucopia Way, Ste. E.
Modesto, Ca. 95358

(209) 491-9320
FAX 491-9331

michael.mcelhiney@ca.usda.gov

John H. Anderson, D.V.M.
Hedgerow Farms
21740 Co Rd 88
Winters, CA 95694

April 15, 1999

To: CAL/FED Proposal Review Committee:

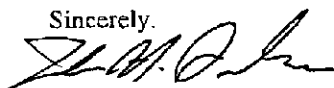
Re: Yolo County Resource Conservation District (RCD) Proposal: **"The Total Resource Management Project as a Model for a Bay-Delta Water Quality and Use Implementation Program, A First Phase in a California One Plan."**

Since 1986 Hedgerow Farms has been working with the RCD on alternative methods to manage unproductive areas of farmland. The methods result in elimination of soil erosion, the establishment of wildlife habitat, and the reduction of weed control maintenance. During the past 10 years we have learned a great deal about managing these types of sites, including what plant species are best suited to a certain situation, what designs and planting methods work most efficiently, and how best to maintain and monitor them.

I believe that the California-One Plan is a very innovative, and logical next step in doing farm planning. More efficient, effective, and readily available natural resource planning is needed. This approach would put planning in the hands of the farmers and landowners who best know their landscape and the potential within it. It would also do it in a guided and standardized format that ensures that program requirements are met should they want to apply for government and other support funds.

With your support, through full funding of this project, there is the opportunity to bring practices that are known to improve water quality to willing growers throughout the County and provide on-farm sites to teach other interested landowners.

Sincerely,



John H. Anderson